

**COMMITMENT & INTEGRITY
DRIVE RESULTS**

40 Shattuck Road | Suite 110
Andover, Massachusetts 01810
www.woodardcurran.com

T 866.702.6371
T 978.557.8150
F 978.557.7948



December 22, 2014

Mr. Michael Dandurand
PCB Coordinator
U.S. Environmental Protection Agency Region 7
11201 Renner Blvd.
Mail Code: AWMDRCAP
Lenexa, KS 66219

Re: PCB Remediation Plans – Love Library North and Behlen Laboratory
University of Nebraska - Lincoln
Lincoln, Nebraska

Dear Mr. Dandurand:

On behalf of the University of Nebraska - Lincoln (UNL), please find attached Remediation Plans prepared in accordance with the requirements for polychlorinated biphenyl (PCB) cleanup and disposal under 40 CFR 761. These plans describe the characterization data collected and detail the proposed remedial plans for PCB bulk product waste and PCB remediation waste (impacted building materials) at the following locations on the UNL campus in Lincoln, Nebraska:

- Love Library North located at 1300 R Street; and
- Behlen Laboratory located at 500 Stadium Drive.

The remediation activities will be conducted as part of building renovation and window/façade replacement projects on each of the respective buildings. The hazardous materials abatement/remediation aspects of the projects, which include PCB remediation of caulking, are scheduled to be performed during the initial phases of the projects, both of which are scheduled to be conducted in 2015.

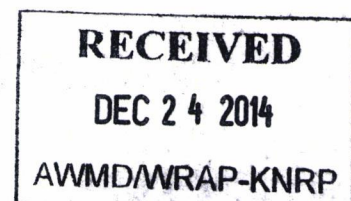
If you have any comments, questions, or require further information, please do not hesitate to contact me at 978-557-8150 (office), 978-317-3635 (cell), or at jhamel@woodardcurran.com.

Sincerely,

WOODARD & CURRAN INC.

Jeffrey Hamel, LSP, LEP
Senior Vice President

cc: J. Webb, University of Nebraska
B. Osthus, University of Nebraska



PCB REMEDIATION PLAN

Love Library North



1.866.702.6371
40 Shattuck Road Suite 110
Andover, MA

Project No. 228508
University of Nebraska
December 2014

TABLE OF CONTENTS

SECTION	PAGE NO.
1. INTRODUCTION	1-1
1.1 Background	1-1
1.2 Conceptual Site Model	1-1
1.3 Remediation Overview	1-2
1.4 Plan Organization	1-2
1.5 Certification	1-3
2. SAMPLE COLLECTION, ANALYSIS, AND DATA USABILITY	2-1
2.1 Characterization Sample Collection	2-1
2.1.1 Sample Collection Methods and Laboratory Analysis	2-1
2.2 Characterization Sampling Results	2-1
2.2.1 Caulking/Sealants	2-1
2.2.2 Building Masonry	2-3
2.3 Data Usability Assessment	2-3
3. REMEDIATION PLAN OVERVIEW	3-1
4. WINDOW AND DOOR REMEDIATION	4-1
4.1 Characterization	4-1
4.1.1 Caulking/Sealants	4-1
4.1.2 Concrete	4-3
4.2 Site Preparation, Communications, and Controls	4-3
4.3 Caulking/Sealant and Window / Door Assemblies	4-4
4.3.1 Verification Sampling	4-5
4.3.2 Contingency Approach – In Place Management of Residual PCBs	4-5
5. CONCRETE WALKWAY REMEDIATION	5-1
5.1 Characterization	5-1
5.1.1 Caulking	5-1
5.1.2 Building Concrete Foundation	5-2
5.2 Caulking and Concrete Walkway Removal	5-2
5.2.1 Verification Sampling	5-3
5.2.2 Contingency Approach – In Place Management of Residual PCBs	5-3
5.3 Underlying Soils	5-4
6. WASTE STORAGE AND DISPOSAL	6-1
7. PROJECT SCHEDULE AND RESTORATION	7-1
8. RECORDKEEPING AND DOCUMENTATION	8-1

TABLES

Table 2-1:	Summary of Caulking/Sealant Characterization Sampling Results
Table 2-2:	Summary of Concrete Sampling Results
Table 3-1:	Summary of Proposed Remedial Activities
Table 3-2:	Summary of Proposed Verification Sampling Plan

FIGURES

Figure 2-1:	Sampling and Pilot Test Locations
Figure 3-1:	PCB Remediation Areas

APPENDICES

Appendix A:	Written Certification
Appendix B:	Laboratory Analytical Reports and Data Validation Summary
Appendix C:	Perimeter Dust Monitoring Plan

1. INTRODUCTION

This Remediation Plan (Plan) has been prepared by Woodard & Curran on behalf of the University of Nebraska Lincoln (UNL) to comply with U.S. Environmental Protection Agency (EPA) requirements for a polychlorinated biphenyl (PCB) cleanup and disposal under 40 CFR Part 761.

This plan describes the data collected and details the proposed remedial approach for PCB-containing building materials to be encountered during planned renovations at the Love Library North building located at 1300 R Street on the UNL campus in Lincoln, Nebraska (see Figure 1-1 below).

Figure 1-1 Site Location



1.1 BACKGROUND

The Love Library is a multi-story concrete structure with brick façade panels on the upper floors. The perimeter of the first floor consists of storefront type windows along the four elevations with an entrance on each side of the building, including the main foyer entry on the south side of the building. The building has a footprint of approximately 35,000 square feet and contains library spaces, study areas, and computer areas. The library is surrounded on the north, east, and west by landscaped areas and to the south by Love Library South building. The first floor of the library is scheduled for renovation activities including the replacement of the storefront windows. Currently, the first floor has been vacated and all books, shelving, and furnishings removed.

1.2 CONCEPTUAL SITE MODEL

Certain joint caulking and other materials used as part of standard construction practices for masonry buildings and concrete structures erected between the 1950's and late 1970's is known to have been manufactured with PCBs. The Love Library North was constructed during this timeframe. PCBs were added to these materials for durability, resistance to degradation, and as a softener/plasticizer for application. Due to the porous nature of concrete and

other masonry surfaces, PCBs may penetrate into adjacent materials during application or over time, may leach or weather, and/or may be disturbed during renovations or other work. Production and approved usage of PCBs was halted in the United States in the late 1970s. As part of the preparation for the renovation project, a materials survey was conducted to assess for the presence of various hazardous materials that may be encountered during the project. This included inspection and sampling of suspect materials for PCBs.

Results from the survey and sampling indicated that PCBs were identified at concentrations ≥ 50 parts per million (ppm) in materials associated with the perimeter windows and exterior walkway caulking adjacent to the building. Characterization samples of building materials formerly in direct contact with the caulking were collected following pilot test activities to determine the presence and concentration of PCBs in building substrates and if abatement would be successful in eliminating residual PCBs > 1 ppm in these materials.

1.3 REMEDIATION OVERVIEW

Results from samples of caulking and adjacent materials have been used, in conjunction with the overall renovation plan, to develop a remediation plan for the removal and disposal of ≥ 50 ppm PCB-containing materials as well as those materials impacted by ≥ 50 ppm PCB containing materials.

The proposed remediation is a combination of removal and off-site disposal of PCB Bulk Product Waste under 40 CFR 761.62, removal of PCB Remediation Waste under 40 CFR 761.61, and a contingency plan prepared in accordance with 40 CFR 761.61(c) for in-place management if unrestricted levels are not met for PCBs in building substrates.

Building materials scheduled for removal (caulking/sealants, storefront window/door frames and components, and concrete walkways) will be removed for off-site disposal as PCB Bulk Product Waste. Residual PCBs in building materials scheduled to remain in place will be removed through mechanical means (e.g., light grinding or scraping). If attempts to remove residual PCBs from these materials do not to achieve the high occupancy cleanup criteria of ≤ 1 ppm total PCBs, then in-place management of residual PCBs through the use of liquid coatings and secondary physical barriers will be implemented as a contingency. Soils beneath the exterior walkway caulking will be excavated to achieve the ≤ 1 ppm clean up level. Additional information regarding the remediation is provided in Sections 4 and 5 for the specific materials.

The renovation project is scheduled to begin in late spring/early summer in 2015. It is anticipated that the PCB and other hazardous materials abatement / remediation aspects of the project will be conducted as part of the initial phases of the project.

1.4 PLAN ORGANIZATION

This Remediation Plan is organized into the following sections:

Section 2: Sample Collection, Analysis, and Data Usability

Section 3: Remediation Plan Overview

Section 4: Window and Door Remediation

Section 5: Concrete Walkway Remediation

Section 6: Waste Storage and Disposal

Section 7: Project Schedule and Restoration

Section 8: Recordkeeping and Documentation

1.5 CERTIFICATION

The following is information regarding the entity submitting this Plan:

Ms. Brenda Osthus
Director, EHS
University of Nebraska-Lincoln
3630 East Campus Loop
Lincoln, NE 68583

Please note that Ms. Brenda Osthus is acting on behalf of the University of Nebraska - Lincoln and not as an individual.

A copy of the written certification signed by the owner of the property and required as part of this plan submittal is provided in Appendix A.

2. SAMPLE COLLECTION, ANALYSIS, AND DATA USABILITY

2.1 CHARACTERIZATION SAMPLE COLLECTION

Characterization sampling of caulking/sealants scheduled to be disturbed as part of the renovations were collected for laboratory analysis. Samples of caulking were collected on October 14, 2014 by New Horizons Enterprises, LLC and on November 6 and 20, 2014 by representatives from UNL. Samples of masonry were collected as part of the pilot test removal activities on November 20, 2014 by representatives from UNL.

A total of 38 samples were collected as follows:

- Potential Source Materials – 34 samples of suspect source materials (caulking, sealants, gaskets, etc.) were collected and submitted for PCB analysis.
- Building Materials – 4 samples of masonry were collected following pilot test removal/abatement activities and submitted for PCB analysis.

A summary of the samples collected and the analytical results is presented on Table 2-1 for potential source materials and on Table 2-2 for adjacent building materials. The locations of the samples are depicted on Figure 2-1.

2.1.1 Sample Collection Methods and Laboratory Analysis

Caulking/sealant samples were collected by cutting/scraping the materials from the joint with hand tools. Masonry samples were collected in accordance with EPA Region 1 Standard Operating Procedures for Sampling Porous Materials for PCBs (May 2011) using a rotary impact hammer drill to a depth of 0.5 inches.

Samples were placed directly into laboratory provided sample containers, logged on a chain of custody, and transferred to the analytical laboratory via overnight delivery (FedEx). Caulking and sealant samples were submitted to the analytical laboratory for extraction via USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs via USEPA Method 8082. Laboratory reports are provided in Appendix B.

2.2 CHARACTERIZATION SAMPLING RESULTS

A summary of the characterization sampling results is provided in the following sections.

2.2.1 Caulking/Sealants

A summary of the results is as follows:

Window Caulking/Sealants

- Perimeter Sealants (metal frame to building substrate; est. 2,600 linear feet [lf]) - 1,300 lf per window side [interior and exterior])
 - Exterior: caulking was observed along the vertical and upper horizontal window frame to concrete joints. Initial analytical results indicated that PCBs were non-detect; however, the minimum laboratory reporting limits were elevated at < 130 ppm in all samples. As such, the material was re-sampled and re-analyzed with analytical results indicating PCBs were present at concentrations \geq 50 ppm in the four samples with reported concentrations of 220, 310, 394, and 466 ppm.
 - Interior: caulking was observed along the vertical and upper horizontal window frame to interior materials. Initial analytical results indicated that PCBs were non-detect; however, the minimum

laboratory reporting limits were elevated with reporting limits of < 29, < 38, < 42, and < 130 ppm. Based on the reporting limit above 50 ppm in the sample collected from the west side of the building, a follow up sample was collected from this location. Analytical results indicated that PCBs ≥ 50 ppm were present with a reported concentration of 361 ppm.

- **Summary - based on the sample results, all exterior and interior perimeter window caulking is considered to contain PCBs at ≥ 50 ppm.**
- Glazing Sealants (glass to metal frame) and Integral Sealants to the Window Assembly
 - Exterior Window Rubber Seal: Analytical results indicated that PCBs were present at concentrations ranging from 0.29 to 6.0 ppm in the four samples collected.
 - Interior Window Rubber Seal: Analytical results indicated that PCBs were present at concentrations ≥ 50 ppm in two of the samples with reported concentrations of 74 and 75 ppm from the west and east sides of the building, respectively. Results from the samples collected from the north and south sides indicated that PCBs were present at concentrations of 4.9 and 31 ppm.
 - During a typical window disassembly, sealants of varying consistency and possible butyl tape configurations were observed in between the metal and glass window assembly components; two samples of these materials were non detect for PCBs (<0.79 and <0.80 ppm); and one sample detected PCBs at 330 ppm.
 - **Summary - given the detection of PCBs ≥ 50 ppm in some sealants integral to the window assembly and the inherent difficulties in separating the window components, all integral sealants have been considered to contain PCBs at ≥ 50 ppm.**
- Window Base Sealant - Foyer Area
 - A dark gray sealant was also observed at the north façade door foyer positioned at the base of the window and concrete slab (PCBs were detected at 273 ppm); a sample of an apparent butyl tape positioned beneath the window frame and a top the concrete floor slab at the north entrance foyer detected PCBs at 30 ppm.
 - **Summary - based on the sample results, if the base caulking is observed at other foyer or non-foyer locations, it will be considered to contain PCBs at ≥ 50 ppm.**

Exterior Caulking at Concrete Walkways

Based on the survey, two types of sealants were observed at joints associated with the concrete walkways adjacent to the building. A brown sealant was observed on the east, west and south sides of the building and is believed to be an older/potentially original sealant associated with the concrete walkways given that it was present within the pad to pad joints as well as along the building foundation at an area where the concrete pad had subsided over time. The second caulking was a gray sealant that visually appeared to be a replacement or repair sealant. Samples of both sealants were collected for analyses.

- Apparent replacement sealant - PCB concentrations were detected in the samples at 0.73, 0.92, and 2.18 ppm;
- Apparent older or potentially original sealant - PCB concentrations were detected in the samples at 2.4, 14.3, 20.6, 148, and < 160 ppm.
- **Summary - based on this data, the apparent older sealant will be considered to contain PCBs at ≥ 50 ppm and replacement sealants will be considered to contain PCBs at < 50 ppm.**

2.2.2 Building Masonry

To determine the presence of PCBs in masonry in areas of sealants with PCBs ≥ 50 ppm, concrete samples were collected as part of pilot test activities from the foundation walls below the windows and along the walkway joints, as well as from an area beneath the window frame on the concrete slab at the north entrance foyer. The locations of the pilot test areas are depicted on Figure 2-1. A summary of the samples collected is as follows:

- Building Foundation Wall
 - One sample of concrete was collected from the foundation wall in an area of former direct contact with the “older” walkway caulking and following removal of the caulking, surficial grinding of concrete, and the cleaning of the area using hexane dampened rags. Analytical results indicated that PCBs were non-detect (< 0.097 ppm).
 - One sample of concrete was collected at a distance of one inch below the “older” walkway caulked joint to determine the extent of PCBs. Analytical results indicated that PCBs were non-detect (< 0.099 ppm).
 - One sample of concrete was collected at a distance of one inch below the perimeter window base and above the “older” walkway caulking joint to determine the extent of PCBs. Analytical results indicated that PCBs were non-detect (< 0.097 ppm).
- Concrete Slab Beneath Window Assembly at North Foyer
 - One sample of concrete was collected from the concrete slab after removal of a portion of the window, the perimeter window caulking, and the bedding tape and following surficial grinding of the concrete and cleaning of the area using hexane dampened rags. Analytical results indicated that PCBs were non-detect (< 0.098 ppm).

2.3 DATA USABILITY ASSESSMENT

This data quality and data usability assessment has been conducted to review the samples collected in support of the characterization activities. Data validation and review was conducted by a third-party validator, Data Check, Inc. of New Durham, New Hampshire. This review included a check of field documentation including: sample collection and preservation methods; and a check of the laboratory data and documentation. For the analytical laboratory report provided by ECS Laboratory, samples were evaluated for holding times and surrogate recoveries since no other information was provided in the laboratory report. For samples submitted to ConTest Analytical, samples were evaluated through a review of the internal laboratory QA/QC procedures and results including surrogate recoveries, blank results, matrix spike (MS) and matrix spike duplicate (MSD) results, laboratory control standard (LCS) and laboratory control standard duplicate (LCSD) results; and an evaluation of sample holding times and field duplicate results. Data Check’s data validation summaries are provided in Appendix B.

A summary of the data usability assessment for the data is presented below:

- All samples were extracted by USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs by USEPA Method 8082.
- Consistent procedures and laboratory analysis of the data were achieved. Sample containers were delivered to the laboratory under standard chain of custody procedures and all samples were extracted and analyzed within the allowable holding times.

- Some samples were analyzed at dilutions due to the concentration of PCBs present in the samples and/or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilutions.
- The RPD between sample column results for individual samples was evaluated to assess the precision of the results. The RPD met acceptance criteria with the exception of four samples. Analytical results from these samples were qualified as estimated based on this evaluation.
- The LCS/LCSD met acceptance criteria with the exception of the LSC/LCSD sample associated with laboratory report 14K0314. Analytical results for detected Aroclors within this sample group have been qualified as estimated (J).
- Accuracy of the analytical data was assessed by reviewing the recoveries for MS/MSD results. Results of the MS/MSD recoveries met the acceptance criteria. No qualifications were applied.
- All surrogates met the acceptance criteria or were diluted out with the exception of two samples. No qualifications were applied due to only one surrogate recovery out of the acceptance criteria.
- No analytes were detected in the method blanks. No qualifications were applied.
- No PCB field duplicates or field blank samples were submitted. No qualifications were applied.
- According to the case narrative for Aroclor 1248 in one sample and Aroclors 1254/1260 in six samples, the sample fingerprint for two samples did not match the standard exactly. The Aroclor with the closest matching pattern was reported by the laboratory. No qualifications were applied.
- According to the case narrative for Aroclor 1254 in three samples and Aroclor 1260 in one sample, continuing calibration non-conformance was present on the confirmatory detector and the lower of the two results was reported. Analytical results for Aroclor 1254 and/or 1260 were qualified as estimated in the affected samples.

Based on this review, the data adequately represents the materials tested, and is considered usable for its intended purpose.

3. REMEDIATION PLAN OVERVIEW

This Plan has been developed for the remediation of PCB Bulk Product Waste and building materials impacted by PCBs from ≥ 50 ppm materials that will be disturbed during the upcoming renovation project at the Love Library North. As part of the renovation activities, three areas containing identified ≥ 50 ppm PCB containing materials will be impacted: first floor building perimeter windows; foyer windows and doors; and concrete walkways along the east, west, and south sides of the building.

The proposed remediation is a combination of removal and off-site disposal with a contingency for in-place management of building substrates if removals do not meet the unrestricted use cleanup levels. Caulking/sealants scheduled for removal and containing ≥ 50 ppm PCBs and building materials in direct contact with/coated by such caulking/sealants will be removed for off-site disposal as PCB Bulk Product Waste.

Residual PCBs in building materials scheduled to remain in place will be removed through mechanical means (e.g., light grinding or scraping). If attempts to remove residual PCBs from these materials do not achieve the high occupancy cleanup criteria of ≤ 1 ppm total PCBs, then in-place management of residual PCBs through the use of liquid coatings and secondary physical barriers will be implemented as a contingency. Soils beneath the exterior walkway caulking will be excavated to achieve the ≤ 1 ppm clean up level.

Summaries of the remedial approach and the verification program are provided on Tables 3-1 and 3-2, respectively. The locations of the remediation areas are depicted on Figure 3-1. Details of the remediation of the specific areas are presented in Section 4 (windows and doors) and Section 5 (concrete walkways).

4. WINDOW AND DOOR REMEDIATION

This section presents a brief summary of the characterization data associated with the building perimeter windows and foyer area window and door assemblies followed by the proposed remediation for the caulking, the window/door frames and components, and the adjacent masonry materials.

There are 20 sets of building windows approximately 30 feet long and 12 feet high separated by the structural concrete columns of the building. Each window group is further divided into four connected window panes (see the photograph below). In addition, there are four entrances to the building (one per building side), including the main foyer area on the south side of the building. The windows and doors sit directly on the foundation of the building and abut the vertical structural columns and the upper concrete floor/ceiling.

A summary of the proposed remediation activities for the building windows and foyer areas is as follows:

- Building perimeter windows and the four entrance doors frames and components, including glass, will be removed in their entirety with the perimeter caulking for off-site disposal as PCB Bulk Product Waste (all miscellaneous caulking and sealants integral to the windows will be removed at this time as well).
- Any residual interior and exterior caulking on masonry surfaces scheduled to remain in place (e.g., structural concrete columns or concrete building slab) will be removed through physical methods including light grinding of the concrete. If removal of residual PCBs does not meet the unrestricted use cleanup level of < 1 ppm, then the materials will be encapsulated with liquid coatings and physical barriers (e.g., replacement window frames).

Details for each of these steps in the remediation process are provided in the sections below. A summary of the remediation and verification sampling approach for each area is provided on Table 3-1 and 3-2.

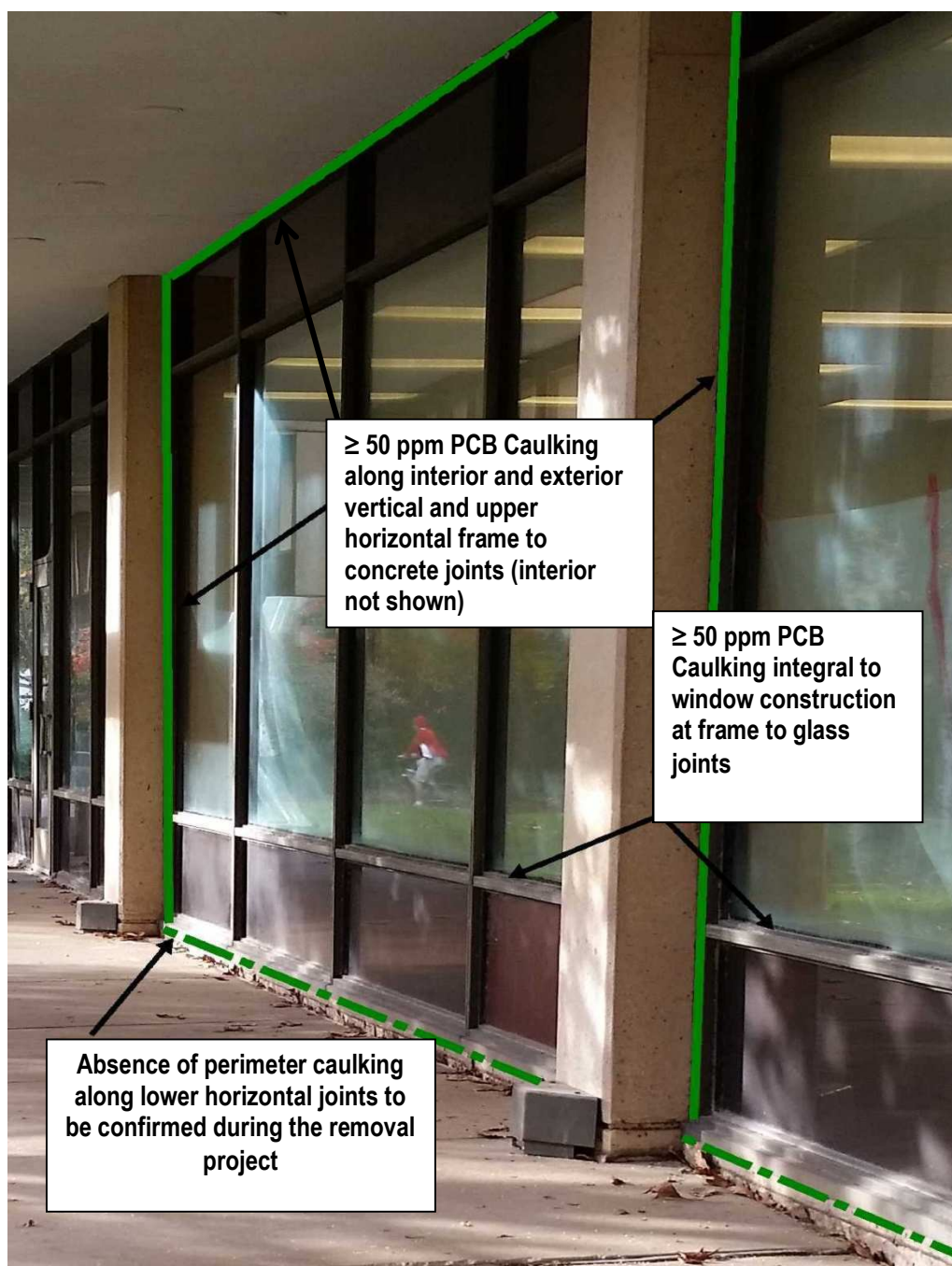
4.1 CHARACTERIZATION

Characterization sampling of the caulking/sealants and the surrounding concrete was conducted as described in the following sections.

4.1.1 Caulking/Sealants

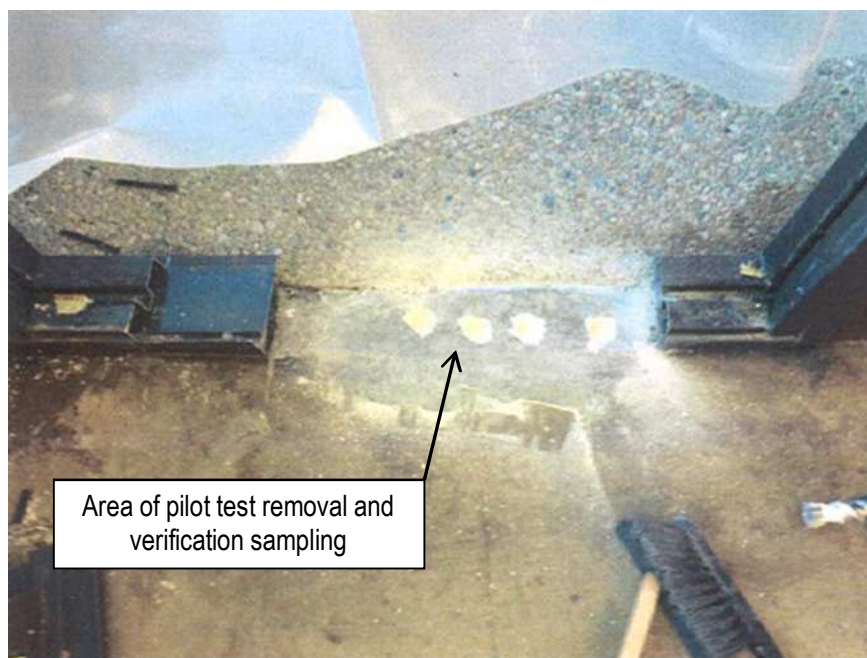
As part of the initial inspections, an inventory of the windows and the associated caulking/sealants was conducted. Approximately 2,600 l.f. of caulking was identified along the interior and exterior vertical and upper horizontal window and entrance door frame to concrete joints and 155 l.f. of caulking was identified beneath the foyer areas windows and doors. Caulking was not observed along the lower horizontal joints of the windows, including at one location where a portion of the window was disassembled to inspect for caulking. If caulking is observed along this lower joint during window removals, then the remediation plan described in the following sections will be incorporated to include concrete surfaces along these areas, including application of characterization and verification sampling at the frequencies described below. Other sealants, integral to the window itself, were also identified as PCB waste ≥ 50 ppm during the inspection.

Typical Window Configuration
(non-foyer areas)



4.1.2 Concrete

As described above, to determine the concentration of PCBs following an initial surface grinding of concrete, pilot test activities were conducted on November 20, 2014. A portion of the lower horizontal frame was removed from the north foyer area and the underlying butyl tape sealant was removed using hand tools (see the photograph below). Following gross removal, residual sealants on the underlying concrete were removed using a hand grinding wheel and then cleaned using a HEPA equipped vacuum and final wipe with hexane dampened rags. Analytical results from the verification sample collected following the removal and cleaning indicated that PCBs were non-detect (< 0.098 ppm).



Pilot Test Removal Area – North Foyer Area

Additional information regarding the characterization, removal, and verification procedures are provided in the sections below.

4.2 SITE PREPARATION, COMMUNICATIONS, AND CONTROLS

Prior to initiating any of the remediation activities, the following activities will be implemented:

Preparation and Communications

- A Health & Safety Plan will be developed for the specific work activities to be conducted. Workers will follow applicable Federal and State regulations regarding the work activities, including but not limited to OSHA regulations, fall protection standards, respiratory protection, ladder safety, personal protective equipment, etc.
- Additional notifications and plans required for the work activities will also be prepared and submitted for approval, as needed.
- Prior to initiation and periodically during the work activities, project-related communications with building employees and contractors will be undertaken on an as needed basis. These communications may include

schedule updates regarding disruption to particular areas, restrictions on exterior door use, or significant project updates.

Controls

- Access to the active work areas will be restricted by fencing or barriers and signage with controlled access points.
- To reduce particulate levels and exposures to airborne particulates, a combination of engineering controls (e.g., work zone enclosures, wetting, etc.) and personal protective equipment (PPE) will be implemented as part of the work activities.
- Remediation will be performed under engineering controls appropriate for PCB abatement based on the reported concentrations of PCBs. Grinding of concrete will be conducted under full negative pressure controls with HEPA filtration to control dust. Wet wiping and water misting will be used as a dust suppressant as appropriate.
- Dust monitoring will be conducted in accordance with Appendix C when active concrete grinding and concrete walkway/soil removal activities are occurring except when grinding is occurring under full containments.
- Ground cover (polyethylene sheeting or equivalent) will be placed along the building walls to serve as containment for any debris or building materials removed. Any debris collected within the polyethylene enclosures or on ground cover sheeting will be gathered and placed in the appropriate containers at the end of each work day. After use, disposable PPE and poly sheeting used to collect debris will be placed in the appropriate containers for disposal as PCB waste.
- Wet wiping, spraying, and/or vacuuming of tools and equipment in the work area will be performed at the completion of the work activity. At the completion of the project, any non-disposable equipment and tools that handled PCB material will be decontaminated following the procedures described in 40 CFR 761.79.

4.3 CAULKING/SEALANT AND WINDOW / DOOR ASSEMBLIES

Window frames and components, including glass, are to be removed with the caulking/sealants in their entirety for disposal as PCB Bulk Product Waste in accordance with 40 CFR 761.62. This removal will include the bulk of the perimeter window caulking and caulking under the foyer area windows and doors as well as all of the integral sealants identified as containing ≥ 50 ppm PCBs and the other miscellaneous caulking/sealants observed during the inspection (i.e., all materials to be removed as a single waste stream).

Following window/door removals, any residual caulking remaining on the structural concrete will be removed by mechanical means, followed by verification sampling. Given that both interior and exterior window perimeter caulking contain PCBs ≥ 50 ppm, this initial removal will be performed on concrete to a distance of one inch away from the interior and exterior joints. If grinding wheels or other electric/powered removal tools are used, they will be equipped with filters to capture dust at the point of generation. Following removal, the areas will be cleaned using a HEPA equipped vacuum and a final wipe with hexane dampened rags (no free liquids to be generated).

4.3.1 Verification Sampling

Following removal of residual caulking and cleaning of the concrete, verification samples will be collected from concrete formerly beneath the interior and exterior joints and from locations laterally away from the joint to verify that residual PCBs > 1 ppm are not present.

Samples of both former direct contact concrete and concrete away from the joints are proposed to be collected from the following areas at the indicated frequencies:

- Vertical and Horizontal Frame to concrete joints (2,600 l.f.) – Three verification samples will be collected per façade (12 samples) and one sample from each door entrance (4 samples). Samples will be collected from locations directly beneath the former caulked joint and at 1-inch from the former caulked joint from interior and exterior joints on an alternating basis (32 samples).
- Foyer Area Lower Horizontal Joints (155 l.f.) – One sample will be collected from each of the four entrances from locations directly beneath the former caulked joint and at a distance of 1-inch from the former caulked joint (8 samples).

If ≥ 50 ppm PCB containing caulking is observed in other locations, then the above sampling plan will be applied to those areas as applicable and the total number of samples adjusted accordingly to maintain the approximate sampling frequencies.

Analytical results will be compared to the high occupancy clean up criteria as follows:

- Total PCBs ≤ 1 ppm – PCB remediation complete, no additional actions.
- Total PCBs > 1 ppm – evaluate the feasibility of concrete removal and cleaning vs. implementation of the contingency approach; if removals to be conducted, follow the same verification approach as described above.

4.3.2 Contingency Approach – In Place Management of Residual PCBs

If the 1 ppm cleanup level is not met, then impacted concrete materials (as determined through verification sampling described above) are to be encapsulated through the application of two coats of a liquid epoxy coating (Sikagard 62 liquid epoxy coating or equivalent product) within the areas to be covered by the new window or door installations. For areas that will not be covered by new windows/doors, then an alternate façade coating will be utilized (e.g., Sika 670W or equivalent).

Because the remaining concrete is structural in nature (floor slabs and vertical columns), removals could expose the metal rebar within the concrete and negatively impact the structural integrity of the concrete. As such, concrete removal from these areas, aside from surficial in nature, is not a feasible remedial alternative at this building. In addition, due to the age of the building, the patching of concrete removal areas would likely result in an undesirable aesthetic condition on the building because concrete patch materials would be difficult to blend into the surrounding masonry to create the required sound waterproof condition.

The in-place management of residual levels of PCBs is an interim measure designed to shield impacted materials from the effects of weathering and leaching mechanisms, thereby eliminating potential exposure pathways and mitigating the potential for PCB transfer via direct contact and/or leaching to other media. Accordingly, there will be no resultant exposure to PCBs. The residual PCBs therefore will not present a risk to human health or the environment. This approach is considered an interim measure, and will require proper disposal of any remaining PCBs upon removal of the material or at the time of building demolition.

Following application of the liquid encapsulant, baseline wipe samples will be collected to evaluate the effectiveness of the encapsulant and establish a baseline for future long term monitoring. Verification wipe samples will be collected from encapsulated materials at a frequency of two samples per facade for a total of 8 samples.

Analytical results of the wipe sampling will be evaluated as follows:

- Total PCBs $\leq 1 \mu\text{g}/100\text{cm}^2$ – no additional activities, replacement windows installed per project requirements.
- Total PCBs $> 1 \mu\text{g}/100\text{cm}^2$ – additional liquid coatings may be applied and follow up wipe sampling conducted and/or installation of replacement window frames to act as final secondary physical barrier.

If the project schedule requires the installation of replacement frames prior to receipt of the verification wipe sampling results, the results will still be compared to the above criteria; however, if results indicated PCBs $> 1 \mu\text{g}/100\text{cm}^2$ are present, the replacement frames will be utilized as a final secondary physical barrier.

Following completion of the encapsulation, the materials will be incorporated into a long term monitoring and maintenance program. Details of a program will be developed and included in the PCB Remediation Completion Report, if required.

5. CONCRETE WALKWAY REMEDIATION

This section presents a brief summary of the characterization data associated with approximately 305 l.f. of concrete walkways along the east, west, and south sides of the building. The walkways on the east and west side are approximately five feet wide and span the length of the building. On the south side, the walkway is centered on the south main foyer area, approximately 35 l.f. in length.

A summary of the proposed remediation activities for the caulking and adjacent materials is as follows:

- Caulking containing ≥ 50 ppm PCBs and concrete associated with the walkways and scheduled to be removed during the renovation project will be removed and disposed off-site as a PCB Bulk Product Waste.
- Any residual caulking on the foundation wall scheduled to remain in place will be removed through physical methods including light grinding of the concrete. If removal of residual PCBs does not meet the unrestricted use cleanup level of < 1 ppm, then the materials will be encapsulated with liquid coatings and/or physical barriers (e.g., replacement window frames).
- Following removal of the caulking and concrete, soils within one foot of the foundation will be excavated to a depth of six inches for off-site disposal as ≥ 50 ppm PCB Remediation Waste, followed by verification testing.



Typical Walkway

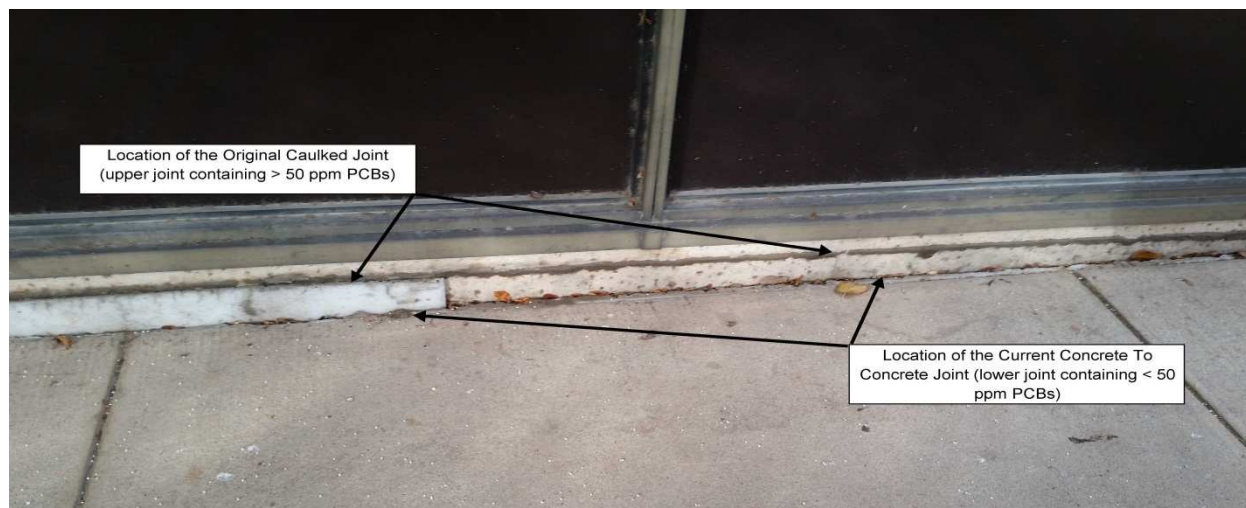
Details for each of these steps in the remediation process are provided in the sections below. A summary of the remediation and verification sampling approach for each area is provided on Tables 3-1 and 3-2.

5.1 CHARACTERIZATION

Characterization sampling of the caulking/sealants and the surrounding concrete was conducted as described in the following sections.

5.1.1 Caulking

Based on the survey, two types of sealants were observed at joints associated with the concrete walkways adjacent to the building. A brown sealant was observed on the east, west and south sides of the building and is believed to be an older/potentially original sealant associated with the concrete walkways given that it was present within the pad to pad joints as well as along the building foundation at an area where the concrete pad had subsided over time. This sealant will be managed as a PCB Bulk Product Waste upon removal. The second caulking was a gray sealant that visually appeared to be a replacement or repair sealant. Based on the reported concentrations of PCBs in the apparent replacement caulking, these sealants are being considered < 50 ppm PCB Remediation Wastes and will be removed and disposed of accordingly (see photograph below depicting this condition).



**Typical Sidewalk Construction
(with caulking visible)**

5.1.2 Building Concrete Foundation

As described above, to determine the extent of PCBs away from the caulked joints, pilot test activities were conducted on November 20, 2014. A sample of concrete was collected at a distance of one inch below the upper caulked joint and one-inch above the caulked joint and submitted for PCB analysis. Analytical results indicated that PCBs were not present in either sample (total PCBs reported as < 0.097 and < 0.099 ppm).

Following gross removal of a section of the upper joint caulking (i.e., caulking containing ≥ 50 ppm PCBs), residual caulking and concrete formerly in direct contact with the caulking and to a distance of one inch above and below the caulking was removed using a hand grinding wheel and then cleaned using a HEPA equipped vacuum and final wipe with hexane dampened rags. Analytical results from the verification sample collected following the removal and cleaning indicated that PCBs were non-detect (< 0.097 ppm).

Based on these results, PCBs > 1 ppm are anticipated to be limited to within one inch of the ≥ 50 ppm PCB containing caulking and will be removed through surficial cleaning methods. Additional information regarding the characterization, removal, and verification procedures are provided in the sections below.

5.2 CAULKING AND CONCRETE WALKWAY REMOVAL

Following the establishment of site preparations, communications, and controls as described in Section 4.2 above, the replacement caulking along the walkways will be removed using physical means such as scrapers and electric caulking removal tools for disposal as < 50 ppm PCB Remediation Waste. Following removal of the replacement caulking, ≥ 50 ppm caulking and the entire sections of concrete walkway within the planned removal areas will be removed for off-site disposal as PCB Bulk Product Waste in accordance with 40 CFR 761.62. Removal of the concrete sidewalk will be performed through mechanical methods to be determined by the remediation contractor.

Following caulking removals, any residual caulking remaining on the foundation wall will be removed by mechanical means, followed by verification sampling. This initial removal will be performed on concrete to a distance of one inch above and below the original caulking joints. If grinding wheels or other electric/powerful removal tools are used, they will be equipped with filters to capture dust at the point of generation. Following removal, the areas will be cleaned using a HEPA equipped vacuum and a final wipe with hexane dampened rags (no free liquids to be generated).

5.2.1 Verification Sampling

Following removal of residual caulking and cleaning of the concrete wall, verification samples will be collected from concrete formerly beneath the joints and from locations above and below the joint to verify that residual PCBs > 1 ppm are not present.

Samples of former direct contact concrete and concrete above and below the joints are proposed to be collected at a frequency of one sample every 30 l.f. for a total of 20 samples. Adjacent material samples will be collected from 1-inch above and below the joint on an alternating basis.

Analytical results will be compared to the high occupancy clean up criteria as follows:

- Total PCBs \leq 1 ppm – PCB remediation complete, no additional actions.
- Total PCBs > 1 ppm – evaluate the feasibility of concrete removal and cleaning vs. implementation of the contingency approach; if removals to be conducted, follow the same verification approach as described above.

5.2.2 Contingency Approach – In Place Management of Residual PCBs

If the 1 ppm cleanup level is not met, then impacted concrete materials (as determined through verification sampling described above) are to be encapsulated through the application of two coats of a liquid epoxy coating (Sikagard 62 liquid epoxy coating or equivalent product) within the areas to be covered by the new window installations. For areas that will not be covered by new windows, then an alternate façade coating may be utilized (e.g., Sika 670W or equivalent), as determined by the project design team.

Because the remaining concrete is structural in nature (floor slabs and vertical columns), removals could expose the metal rebar within the concrete and negatively impact the structural integrity of the concrete. As such, concrete removal from these areas, aside from superficial in nature, is not a feasible remedial alternative at this building. In addition, due to the age of the building, the patching of concrete removal areas would likely result in an undesirable aesthetic condition on the building because concrete patch materials would be difficult to blend into the surrounding masonry to create the required sound waterproof condition.

The in-place management of residual levels of PCBs is an interim measure designed to shield impacted materials from the effects of weathering and leaching mechanisms, thereby eliminating potential exposure pathways and mitigating the potential for PCB transfer via direct contact and/or leaching to other media. Accordingly, there will be no resultant exposure to PCBs. The residual PCBs therefore will not present a risk to human health or the environment. This approach is considered an interim measure, and will require proper disposal of any remaining PCBs upon removal of the material or at the time of building demolition.

Following application of the liquid encapsulant, baseline wipe samples will be collected to evaluate the effectiveness of the encapsulant and establish a baseline for future long term monitoring. Baseline wipe samples will be collected at a frequency of one sample per facade for a total of three samples. Analytical results will be evaluated as follows:

- Total PCBs \leq 1 $\mu\text{g}/100\text{cm}^2$ – no additional activities, area restored per project requirements;
- Total PCBs > 1 $\mu\text{g}/100\text{cm}^2$ – additional liquid coatings may be applied and follow up wipe sampling conducted and/or installation of secondary physical barrier.

Following completion of the encapsulation, the materials will be incorporated into a long term monitoring and maintenance program. Details of a program will be developed and included in the PCB Remediation Completion Report, if required.

5.3 UNDERLYING SOILS

Based on the reported concentration of PCBs in the caulking, it is anticipated that PCBs > 1 ppm may be present in soils underneath the concrete walkway in areas of caulked joints (PCBs may have migrated from the caulking downward along the concrete joint to the soils). In order to expedite the removal and restoration aspects of the project, soils beneath the former concrete to concrete joints and to a lateral distance of one foot from the foundation wall (or six inches on either side of an integral pad joint) are to be excavated to a depth of six inches for off-site disposal as a ≥ 50 ppm PCB Remediation Waste.

Following removal of the soils, verification samples will be collected at the base of the excavation (vertical delineation) and sidewalls, immediately beyond the lateral extent of the excavation (lateral delineation) at a frequency of one sample every 30 l.f. of removal for a total of 20 samples (10 from the base and 10 from the sidewall). Analytical results from the verification samples will be compared to the clean-up level as follows:

- Total PCBs ≤ 1 ppm – remediation complete, area released for general construction activities; and
- Total PCBs > 1 ppm – additional excavation to be conducted and subsequent verification samples to be collected from off-set locations until 1 ppm level is met.

6. WASTE STORAGE AND DISPOSAL

Wastes generated as part of the remediation activities will be managed for off-site disposal as follows:

- PCB Bulk Product Wastes – Caulking and sealants identified as containing ≥ 50 ppm PCBs as well as window and door frames and components and the concrete walkways will be removed collectively and managed as a single waste stream for off-site disposal in accordance with 40 CFR 761.62
- ≥ 50 ppm PCB Remediation Wastes – Excavated soils will be managed for off-site disposal as ≥ 50 ppm PCB Remediation Wastes to a landfill permitted to accept such materials in accordance with 40 CFR 761.61.
- < 50 ppm PCB Remediation Wastes – Replacement caulking along the concrete walkways will be managed for off-site disposal as < 50 ppm PCB Remediation Waste in accordance with 40 CFR 761.61. After removing loose debris, disposable polyethylene sheeting, PPE, and non-liquid cleaning materials generated as part of the PCB remediation will also be managed and disposed of as < 50 ppm PCB waste in accordance with 40 CFR 761.61(a) (5)(v)

The following activities will be completed with regard to the proper storage and disposal of PCB wastes:

- Secure, lined, and covered waste containers (roll-off containers or equivalent), 55-gallon DOT-approved steel containers, or cubic yard boxes/totes will be staged for the collection of PCB wastes generated during the work activities in accordance with 40 CFR 761.65.
- Containers will be properly labeled and marked in accordance with 40 CFR 761.40.
- Upon completion of the work, or when a container is considered full, PCB wastes will be transported off-site for disposal to a facility permitted to accept such material.
- At the end of their use on the project, non-disposable tools and equipment will be decontaminated in accordance with 40 CFR 761.79. While not anticipated, decontamination fluids generated during the work will be collected/contained and managed/disposed in accordance with 40 CFR 761.79.

Copies of the waste shipment records, including manifests and certificates of disposal, will be collected and provided as part of the final report to EPA.

7. PROJECT SCHEDULE AND RESTORATION

The renovations are currently scheduled to begin in the late spring or early summer of 2015.

Following completion of the removal activities and verification that the cleanup levels have been met or the risk-based encapsulation approach applied, the building surfaces will be restored in accordance with the renovation project design specifications. The site controls will be dismantled and all wastes will be transported off-site for proper disposal. If required, monitoring and maintenance of the in-place materials will be implemented in accordance with the monitoring plan to be developed at the completion of the renovation project.

8. RECORDKEEPING AND DOCUMENTATION

Following completion of the work activities, records and documents per 40 CFR Part 761 will be generated and maintained at one location. A final report documenting the completion of the work activities, verification analytical results, volumes of disposed materials, and waste disposal records will be prepared and submitted to EPA.

Based on the characterization data collected to date and the proposed remedial approach, it is anticipated that residual PCBs > 1 ppm will be removed from the building; however, if the in-place management contingency approach is used for this project, a long term monitoring and maintenance plan shall be developed for the subject areas and submitted to EPA for review as part of the project completion reporting.

The main components of the MMP are anticipated to be as follows:

- Visual inspections – Visual inspections of the encapsulated surfaces will be conducted. All inspections will be recorded and included in a report to the EPA. The inspections will consist of an assessment of the following:
 - Signs of the underlying coating, or excessive pitting, peeling, or breakages in the coating, if visible;
 - Signs of weathering or disturbance of the replacement caulking (where applied); and
 - A general inspection of the masonry surfaces (where applied).
- Monitoring – Materials included in the long term monitoring that are not covered with physical barriers (e.g. replacement frames or caulking) will be monitored through the collection of verification wipe samples.
- Corrective Actions – If results of the inspections indicate that damage has occurred to a component of the barrier system, the needed repairs will be conducted.
- Maintenance Guidelines and Procedures – It is not anticipated that workers or building occupants will come into routine contact with the encapsulated materials; however, to prevent potential exposure to maintenance and facility personnel that may perform activities in encapsulated areas, guidelines and procedures will be developed and implemented for any work being conducted in the respective encapsulated areas. These guidelines and procedures will detail communication procedures, worker protection requirements, and worker training requirements to be conducted for maintenance or other activities in these areas.
- Reporting – A report documenting the findings of the monitoring will be prepared and submitted to EPA.

**Table 2-1
Summary of Caulking/Sealant Characterization Sampling Results**

Love Library North - University of Nebraska, Lincoln

	Location and Physical Description	Sample ID	Sample Date	Total PCBs (mg/kg)
Window Caulking and Sealants				
Exterior Window Perimeter Caulking at Metal Frame to Masonry Joint	North Side of Building, Brown Caulking	EK N.	10/14/2014	< 130
		EKN	11/20/2014	310
	South Side of Building, Brown Caulking	EK S.	10/14/2014	< 130
		EKS	11/20/2014	220
	East Side of Building, Brown Caulking	EK E.	10/14/2014	< 130
		EKE	11/20/2014	466
	West Side of Building, Brown Caulking	EK W.	10/14/2014	< 130
		EKW	11/20/2014	394 J
Interior Window Perimeter Caulking at Metal Frame to Interior Wall Joint	North Side of Building, Brown Caulking	IC N.	10/14/2014	< 29
	South Side of Building, Brown Caulking	IC S.	10/14/2014	< 38
	East Side of Building, Brown Caulking	IC E.	10/14/2014	< 42
	West Side of Building, Brown Caulking	IC W.	10/14/2014	< 130
		ICW	11/20/2014	361
Exterior Window Rubber Seal At Glass To Metal Frame	North Side of Building	ERS N.	10/14/2014	0.99
	South Side of Building, Black Rubber	ERS S.	10/14/2014	0.29
	East Side of Building, Black Rubber	ERS E.	10/14/2014	6.0
	West Side of Building, Black Rubber	ERS W.	10/14/2014	3.3
Interior Window Rubber Seal At Glass To Rubber Frame	North Side of Building, Black Rubber	IRS N.	10/14/2014	31
	South Side of Building, Black Rubber	IRS S.	10/14/2014	4.9
	East Side of Building, Black Rubber	IRS E.	10/14/2014	75
	West Side of Building, Black Rubber	IRS W.	10/14/2014	74
Sealants Integral to Window Assembly	North Foyer, Dark tacky caulking	LW1	11/6/2014	< 0.80
	North Foyer, pliable caulking, not tacky	LW2	11/6/2014	330 J
	North Foyer, butyl tape	LWT	11/6/2014	< 0.79
Sealants Beneath Window Frame	North foyer; under window, Dark Gray Caulking	LFC	11/6/2014	273 J
	On foundation under window, butyl tape	LWB	11/6/2014	30 J
Masonry Caulking				
Exterior Caulking at Concrete Walkways	East Side of Building, Dark Brown, older/potentially original caulking	ESC E.	10/14/2014	148
	South entrance sidewalk joints, Dark Brown older/potentially original caulking	LSC	11/6/2014	< 160
	Caulking on south entrance, Dark Brown older/potentially original caulking	LSO	11/6/2014	14.3 J
	Caulking on brick joints at south entrance, Dark Brown older/potentially original caulking	LSB	11/6/2014	2.4 J
	Masonry Caulking on West Side of Building, Dark Brown older/potentially original caulking	LWO	11/6/2014	20.6 J
	West Side of Building, Gray Caulking newer or replacement caulking	ESC W.	10/14/2014	2.18
	South Side of Building, Gray Caulking newer or replacement caulking	ESC S.	10/14/2014	0.73
	North Side of Building, Gray Caulking at new concrete walk	ESC N.	10/14/2014	0.92

Notes:

Samples collected in accordance with standard environmental field sampling practices and analyzed for PCBs via USEPA method 8082 with Soxhlet Extraction(3540C).

Total PCBs reported as Aroclors 1248, 1254 and/or 1260. No other Aroclors reported at concentrations above the laboratory minimum reporting limit.

Shaded and bold results indicate total PCBs reported at concentrations > 50 ppm.

J = Analytical results qualified as estimated based on data validation. See Appendix B for additional information.

Table 2-2
Summary of Concrete Sampling Results
Love Library North - University of Nebraska, Lincoln

	Location	Sample ID	Sample Date	Total PCBs (mg/kg)
Building Foundation Wall At Concrete Walkway (east side)				
Exterior Foundation At Sidewalk Caulking Joint	Collected following caulking removal and light grinding of surface (0.25" concrete removed)	EFC	11/20/2014	< 0.097
Foundation Below Concrete Walkway Caulking	1" below caulked joint to determine migration of PCBs away from joint.	EFD	11/20/2014	< 0.099
Foundation Above Concrete Walkway Caulking	1" below north side window/foundation joint to determine migration of PCBs away from the joint	ES	11/20/2014	< 0.097
Concrete Slab Beneath Window At Foyer (north side)				
Concrete Underneath Window Assembly	Collected following caulking removal and light grinding of surface (0.25" concrete removed)	IF	11/20/2014	< 0.098

Notes:

Samples collected in accordance with EPA Region 1 Standard Operating Procedure for sampling Porous Media for PCBs (May 2011) using a rotary impact hammer drill to a depth of 0.5 inches.

Samples analyzed for PCBs via USEPA method 8082 with Soxhlet Extraction(3540C).

Table 3-1
Summary of Proposed Remedial Activities
Love Library North - University of Nebraska, Lincoln

Work Area	≥ 50 ppm Material	Characterization Sample Summary	Planned Remediation
Building Perimeter Windows and Doors	Interior and Exterior Perimeter Frame Caulking (2,600 l.f.)	Total PCBs reported in caulking along interior and exterior frame to masonry joints at concentrations up to 466 ppm.	<p>Remove all caulking, window/door frames and components (including glass) for off-site disposal as PCB Bulk Product Waste. If verification samples collected following cleaning of concrete do not meet < 1 ppm cleanup level, then materials to be managed in place through the application of liquid coatings as described in Section 4.</p> <p>Additional characterization and post-removal verification samples of adjacent masonry to be collected to: 1) characterize the lateral extent of residual PCBs > 1 ppm; and 2) verify removal of PCB impacts > 1 ppm following concrete cleaning. If encapsulation is required, verification/baseline wipe samples of coated surfaces to be collected to establish baseline monitoring data for encapsulated surfaces.</p> <p>Additional information is presented in Section 4.</p>
	Lower Horizontal Caulking at Foyer Areas (155 l.f.)	<p>Total PCBs reported in caulking below the foyer area windows and door frames at a concentration of 273 ppm (north area only; assumed at other foyers as well).</p> <p>Total PCBs reported as non-detect in one sample from the concrete slab following pilot test removal actions of the caulking.</p>	
	Integral Window Caulking/Sealants	Total PCBs reported in sealants integral to the window assembly or from glazing sealants at concentrations ranging up to 330 ppm.	
East, West, and South Walkways	Concrete Foundation to Sidewalk Caulking (305 l.f.)	<p>Total PCBs reported in the caulking at concentrations up to 148 ppm.</p> <p>Total PCBs reported as non-detect in samples of concrete collected from the building foundation wall, following pilot test removal actions.</p>	<p>Remove all > 50 ppm caulking for off-site disposal as PCB Bulk Product Waste. If verification samples collected following concrete cleaning do not meet < 1 ppm cleanup level, then materials to be managed in place through the application of liquid coatings as described in Section 5.</p> <p>Following removal of concrete sidewalk, soils to a distance of 1 foot from the foundation wall to be removed to a depth of 6 inches for off-site disposal as ≥ 50 ppm PCB Remediation Waste.</p> <p>Additional characterization and post-removal verification samples of adjacent masonry to be collected to: 1) characterize the lateral extent of residual PCBs > 1 ppm; and 2) verify removal of PCB impacts > 1 ppm following concrete cleaning. If encapsulation is required, verification/baseline wipe samples of coated surfaces to be collected to establish baseline monitoring data for encapsulated surfaces. Verification samples of underlying soils to be collected to confirm PCBs > 1 ppm are not present in soils following removal.</p> <p>Additional information is presented in Section 5.</p>

Notes:

l.f. = linear feet

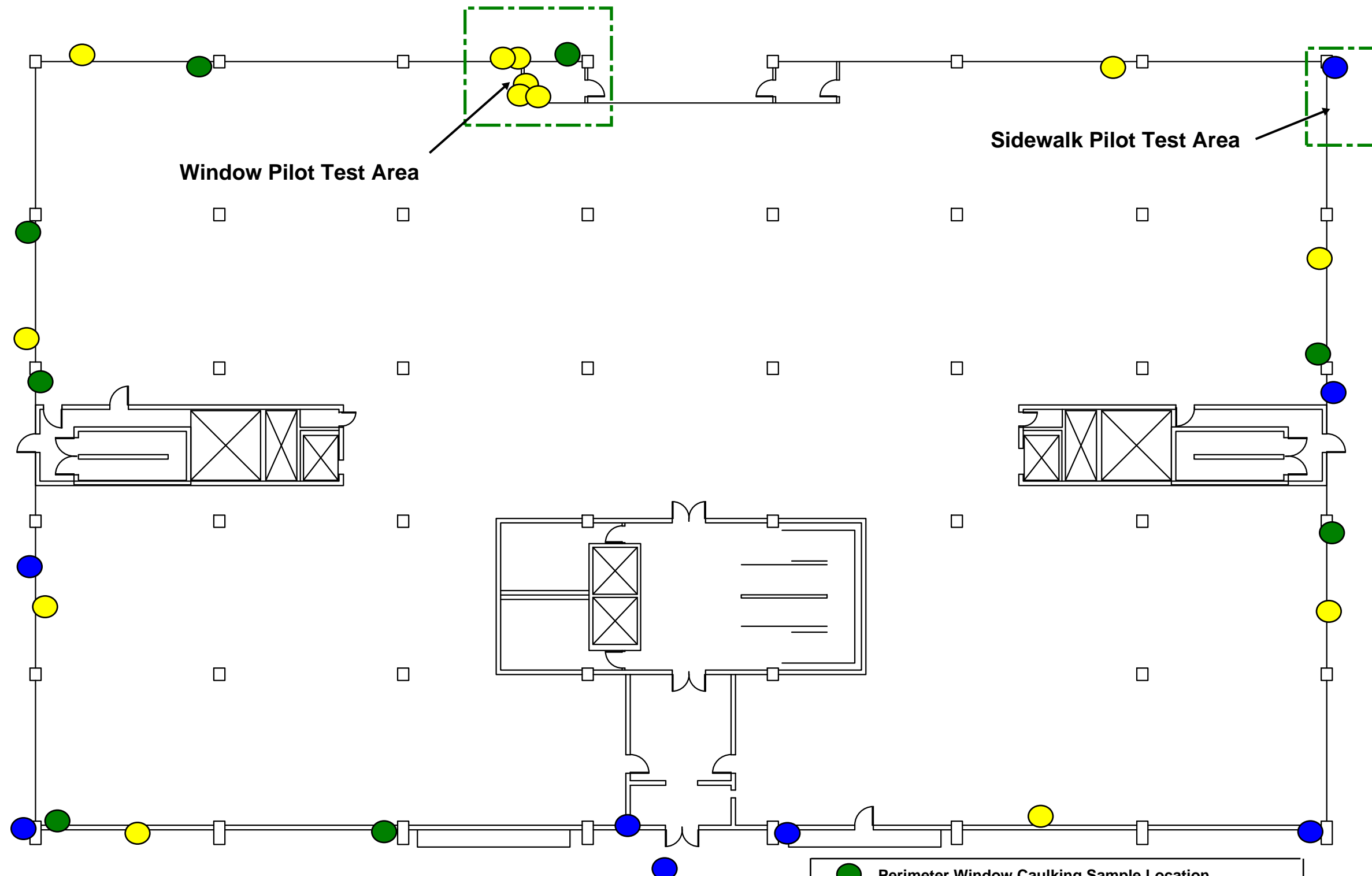
Linear footages and quantities of materials are based demolition plans provided to Woodard & Curran by UNL and not on field measurement.

Extent of building materials and soils subject to remediation or off-site disposal as PCB wastes to be determined through verification sampling as described on Table 3-2.

Table 3-2
Summary of Proposed Verification Sampling Plan
Love Library North - University of Nebraska, Lincoln

Work Area	Sample Type	Sample Location	Sample Rationale	Sample Frequency	Total Number Samples
Bulk Samples					
Windows	Vertical and Upper Horizontal Frame to Concrete Joints (2,600 l.f.) includes 4 doors	1" from the joint	Samples collected to verify extent of PCBs > 1 ppm to establish limits of removal. Samples to be collected a distance of 1" from interior and exterior perimeter window joints.	3 samples per façade and one sample at the 4 door entrances (alternating between interior and exterior joints)	16
		Base of Removal Area	Samples collected to verify that PCBs > 1 ppm have been removed through grinding.	3 samples per façade and one sample at the 4 door entrances (alternating between interior and exterior joints)	16
Doors	Horizontal Foyer Area Frame to Concrete Slab (155 l.f.)	1" from the joint	Samples collected to verify extent of PCBs > 1 ppm to establish limits of removal. Samples to be collected a distance of 1" from perimeter door base.	1 per area	4
		Base of Removal Area	Samples collected to verify that PCBs > 1 ppm have been removed through grinding.	1 per area	4
Concrete Foundation Along Walkway Joints	Upper Caulking Bead (305 l.f.)	1" from the joint	Samples collected to verify extent of PCBs > 1 ppm to establish limits of removal. Samples to be collected a distance of 1" above and below the joints.	1 per 30 l.f. (alternating between above and below the joints)	10 5 - above 5 - below
		Base of Removal Area	Samples collected to verify that PCBs > 1 ppm have been removed through grinding.	1 per 30 l.f. of removal	10
Soils Beneath Concrete Walkways		Lateral Extent	Sidewall samples collected to verify PCBs > 1 ppm are not present at a distance > 1 foot from the foundation wall.	1 per 30 l.f. of excavation	10
		Base of Excavation	Samples collected to determine if PCBs > 1 ppm are present in soils following removal of concrete sidewalk and initial 6 inches of soils.	1 per 30 l.f. of excavation	10
Wipe Samples (Contingency Only)					
Concrete Masonry Surrounding Perimeter Windows		Encapsulated Materials	Samples collected to establish baseline wipe sampling data.	2 samples per façade	8
Concrete Foundation Along Sidewalk Joints		Encapsulated Materials	Samples collected to establish baseline wipe sampling data.	1 sample per façade	3

Notes:
Bulk samples to be collected in accordance with EPA Region 1 SOP for Sampling Porous Surfaces for PCBs (May 2011)
Wipe samples to be collected in accordance with the standard wipe test method of 40 CFR 761.123 with a hexane-saturated gauze.



Not To Scale

- Perimeter Window Caulking Sample Location
- Walkway Caulking Sample Location
- Integral Window Caulking/Sealant Sample Locations

Love Library North
University of Nebraska Lincoln

PCB Remediation Plan

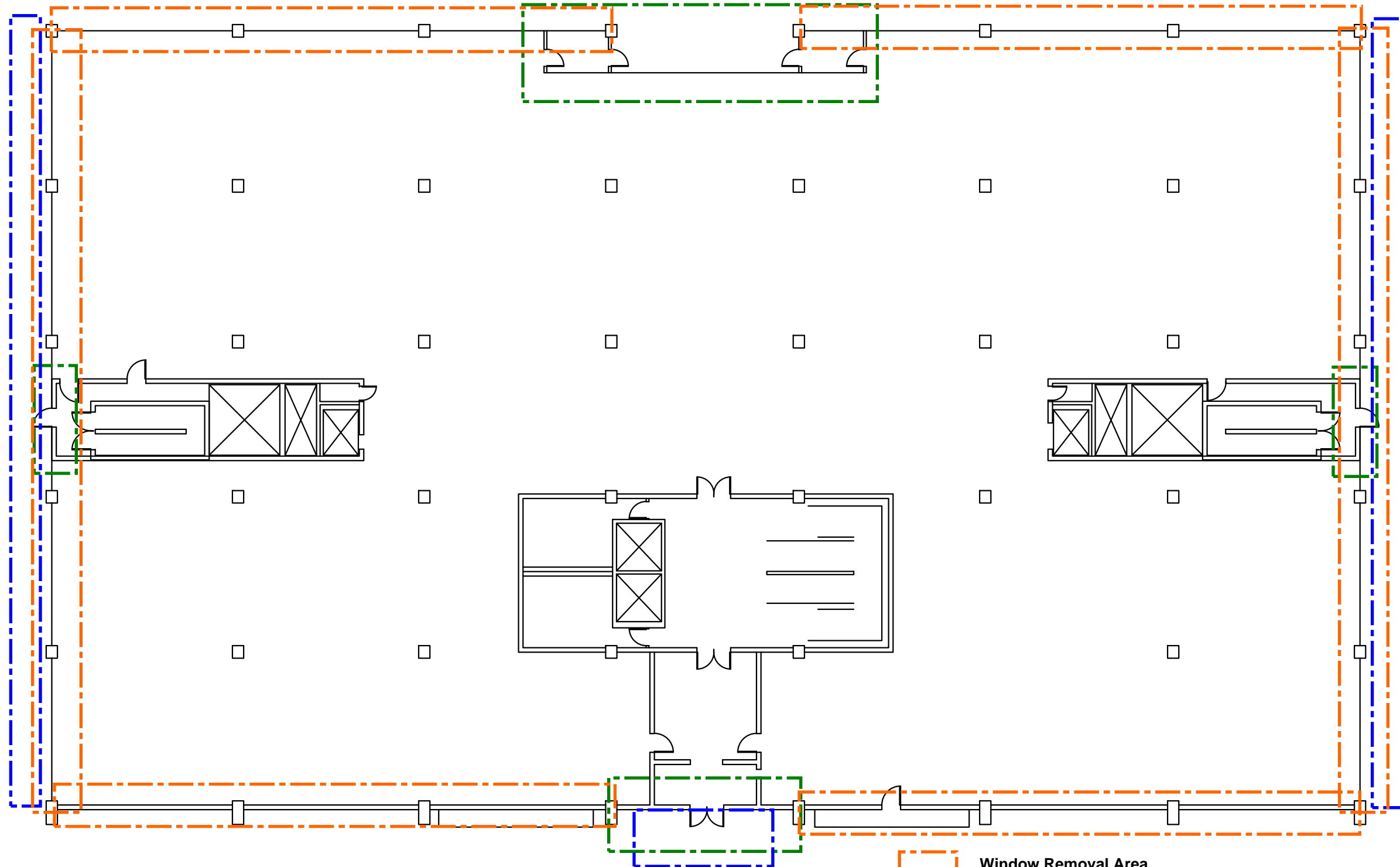
JOB NO: JOB NUMBER
DATE: DECEMBER 2014
SCALE: Not To Scale

Figure 2-1



WOODARD
& CURRAN
COMMITMENT & INTEGRITY DRIVE RESULTS
| www.woodardcurran.com

Sampling and Pilot Test Locations



Not To Scale

-  Window Removal Area
-  Sidewalk Removal Area
-  Foyer Area

Love Library North
University of Nebraska Lincoln

PCB Remediation Areas

PCB Remediation Plan

JOB NO: JOB NUMBER
DATE: DECEMBER 2014
SCALE: Not To Scale
Figure 3-1

APPENDIX A: WRITTEN CERTIFICATION



Certification

Project Love Library North
1300 R Street
Lincoln, NE

The undersigned owner of the property where the cleanup site is located and the party conducting the cleanup certify that all sampling plans, sampling collection procedures, sample preparation procedures, extraction procedures and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at the location indicated below and are available for EPA inspection, as set forth below.

Document Location

University of Nebraska, Lincoln
Environmental Health and Safety Office
3630 East Campus Loop
Lincoln, NE 68583

Property Owner and Party Conducting the Cleanup

Brenda Osthus
Authorized Signature

12-18-2014
Date

Brenda Osthus
Name of Authorized representative (print)

EHS Director
Title

APPENDIX B: LABORATORY ANALYTICAL REPORTS AND DATA VALIDATION SUMMARY

November 13, 2014

Joel Webb
Single Projects
3630 East Campus Loop
Lincoln, Nebraska 68507

Project Location: Love North
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 14K0314

Enclosed are results of analyses for samples received by the laboratory on November 7, 2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Aaron L. Benoit", with a long horizontal line extending to the right.

Aaron L. Benoit
Project Manager

Table of Contents

Sample Summary	3
Case Narrative	4
Sample Results	7
14K0314-01	7
14K0314-02	8
14K0314-03	9
14K0314-04	10
14K0314-05	11
14K0314-06	12
14K0314-07	13
14K0314-08	14
14K0314-09	15
Sample Preparation Information	16
QC Data	17
Polychlorinated Biphenyls with 3540 Soxhlet Extraction	17
B109252	17
Dual Column RPD Report	18
Flag/Qualifier Summary	26
Certifications	27
Chain of Custody/Sample Receipt	28

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Single Projects
3630 East Campus Loop
Lincoln, Nebraska 68507
ATTN: Joel Webb

REPORT DATE: 11/13/2014

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 14K0314

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Love North

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
LWB	14K0314-01	Caulk		SW-846 8082A	
LFC	14K0314-02	Caulk		SW-846 8082A	
LW1	14K0314-03	Caulk		SW-846 8082A	
LW2	14K0314-04	Caulk		SW-846 8082A	
LWT	14K0314-05	Caulk		SW-846 8082A	
LSO	14K0314-06	Caulk		SW-846 8082A	
LSB	14K0314-07	Caulk		SW-846 8082A	
LSC	14K0314-08	Caulk		SW-846 8082A	
LWO	14K0314-09	Caulk		SW-846 8082A	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332
SW-846 8082A

Qualifications:

O-04

Sample fingerprint does not match standard exactly. Sample was quantitated against the closest matching standard.

Analyte & Samples(s) Qualified:

Aroclor-1248

14K0314-01[LWB]

Aroclor-1248 [2C]

14K0314-01[LWB]

Aroclor-1254

14K0314-02[LFC], 14K0314-04[LW2]

Aroclor-1254 [2C]

14K0314-02[LFC], 14K0314-04[LW2]

Aroclor-1260

14K0314-02[LFC], 14K0314-04[LW2]

Aroclor-1260 [2C]

14K0314-02[LFC], 14K0314-04[LW2]

O-27

Elevated reporting limit due to sample matrix interference. Multiple extract clean-up procedures were performed on this sample, but they did not sufficiently remove the interference to meet the requested reporting limit.

Analyte & Samples(s) Qualified:

14K0314-08[LSC]

P-01

Result was confirmed using a dissimilar column. Relative percent difference between the two results was >40%. In accordance with the method, the higher result was reported.

Analyte & Samples(s) Qualified:

Aroclor-1260 [2C]

14K0314-02[LFC]

P-04

Due to continuing calibration non-conformance on the confirmatory detector, the lower of two results was reported.

Analyte & Samples(s) Qualified:

Aroclor-1254

14K0314-06[LSO], 14K0314-07[LSB], 14K0314-09[LWO]

Aroclor-1260

14K0314-09[LWO]

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Aroclor-1016

14K0314-01[LWB], 14K0314-02[LFC], 14K0314-03[LW1], 14K0314-04[LW2], 14K0314-05[LWT], 14K0314-06[LSO], 14K0314-07[LSB], 14K0314-08[LSC], 14K0314-09[LWO], B109252-BLK1, B109252-BS1, B109252-BSD1

Aroclor-1016 [2C]

14K0314-01[LWB], 14K0314-02[LFC], 14K0314-03[LW1], 14K0314-04[LW2], 14K0314-05[LWT], 14K0314-06[LSO], 14K0314-07[LSB], 14K0314-08[LSC], 14K0314-09[LWO], B109252-BLK1, B109252-BS1, B109252-BSD1

Aroclor-1260

14K0314-01[LWB], 14K0314-02[LFC], 14K0314-03[LW1], 14K0314-04[LW2], 14K0314-05[LWT], 14K0314-06[LSO], 14K0314-07[LSB], 14K0314-08[LSC], 14K0314-09[LWO], B109252-BLK1, B109252-BS1, B109252-BSD1

Aroclor-1260 [2C]

14K0314-01[LWB], 14K0314-02[LFC], 14K0314-03[LW1], 14K0314-04[LW2], 14K0314-05[LWT], 14K0314-06[LSO], 14K0314-07[LSB], 14K0314-08[LSC], 14K0314-09[LWO], B109252-BLK1, B109252-BS1, B109252-BSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:**Decachlorobiphenyl**

14K0314-01[LWB], 14K0314-02[LFC], 14K0314-04[LW2], 14K0314-08[LSC], 14K0314-09[LWO]

Decachlorobiphenyl [2C]

14K0314-01[LWB], 14K0314-02[LFC], 14K0314-04[LW2], 14K0314-08[LSC], 14K0314-09[LWO]

Tetrachloro-m-xylene

14K0314-01[LWB], 14K0314-02[LFC], 14K0314-04[LW2], 14K0314-08[LSC], 14K0314-09[LWO]

Tetrachloro-m-xylene [2C]

14K0314-01[LWB], 14K0314-02[LFC], 14K0314-04[LW2], 14K0314-08[LSC], 14K0314-09[LWO]

S-02

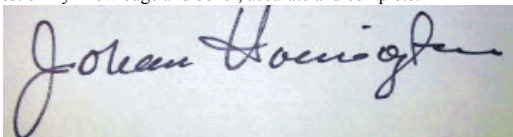
The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

Analyte & Samples(s) Qualified:**Decachlorobiphenyl**

14K0314-06[LSO], 14K0314-07[LSB]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington

Manager, Laboratory Reporting

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love North

Sample Description:

Work Order: 14K0314

Date Received: 11/7/2014

Sampled: 11/6/2014 00:00

Field Sample #: LWB

Sample ID: 14K0314-01

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	mg/Kg	50	R-05	SW-846 8082A	11/9/14	11/11/14 22:03	KAL
Aroclor-1221 [1]	ND	10	mg/Kg	50		SW-846 8082A	11/9/14	11/11/14 22:03	KAL
Aroclor-1232 [1]	ND	10	mg/Kg	50		SW-846 8082A	11/9/14	11/11/14 22:03	KAL
Aroclor-1242 [1]	ND	10	mg/Kg	50		SW-846 8082A	11/9/14	11/11/14 22:03	KAL
Aroclor-1248 [1]	30	10	mg/Kg	50	O-04	SW-846 8082A	11/9/14	11/11/14 22:03	KAL
Aroclor-1254 [1]	ND	10	mg/Kg	50		SW-846 8082A	11/9/14	11/11/14 22:03	KAL
Aroclor-1260 [1]	ND	10	mg/Kg	50	R-05	SW-846 8082A	11/9/14	11/11/14 22:03	KAL
Aroclor-1262 [1]	ND	10	mg/Kg	50		SW-846 8082A	11/9/14	11/11/14 22:03	KAL
Aroclor-1268 [1]	ND	10	mg/Kg	50		SW-846 8082A	11/9/14	11/11/14 22:03	KAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	*	30-150			S-01			11/11/14 22:03	
Decachlorobiphenyl [2]	*	30-150			S-01			11/11/14 22:03	
Tetrachloro-m-xylene [1]	*	30-150			S-01			11/11/14 22:03	
Tetrachloro-m-xylene [2]	*	30-150			S-01			11/11/14 22:03	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love North

Sample Description:

Work Order: 14K0314

Date Received: 11/7/2014

Sampled: 11/6/2014 00:00

Field Sample #: LFC

Sample ID: 14K0314-02

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	19	mg/Kg	100	R-05	SW-846 8082A	11/9/14	11/12/14 13:22	KAL
Aroclor-1221 [1]	ND	19	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 13:22	KAL
Aroclor-1232 [1]	ND	19	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 13:22	KAL
Aroclor-1242 [1]	ND	19	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 13:22	KAL
Aroclor-1248 [1]	ND	19	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 13:22	KAL
Aroclor-1254 [2]	210	19	mg/Kg	100	O-04	SW-846 8082A	11/9/14	11/12/14 13:22	KAL
Aroclor-1260 [2]	63	19	mg/Kg	100	O-04, P-01, R-05	SW-846 8082A	11/9/14	11/12/14 13:22	KAL
Aroclor-1262 [1]	ND	19	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 13:22	KAL
Aroclor-1268 [1]	ND	19	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 13:22	KAL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	*	30-150	S-01					11/12/14 13:22	
Decachlorobiphenyl [2]	*	30-150	S-01					11/12/14 13:22	
Tetrachloro-m-xylene [1]	*	30-150	S-01					11/12/14 13:22	
Tetrachloro-m-xylene [2]	*	30-150	S-01					11/12/14 13:22	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love North

Sample Description:

Work Order: 14K0314

Date Received: 11/7/2014

Sampled: 11/6/2014 00:00

Field Sample #: LW1

Sample ID: 14K0314-03

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.80	mg/Kg	4	R-05	SW-846 8082A	11/9/14	11/11/14 22:40	KAL
Aroclor-1221 [1]	ND	0.80	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 22:40	KAL
Aroclor-1232 [1]	ND	0.80	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 22:40	KAL
Aroclor-1242 [1]	ND	0.80	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 22:40	KAL
Aroclor-1248 [1]	ND	0.80	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 22:40	KAL
Aroclor-1254 [1]	ND	0.80	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 22:40	KAL
Aroclor-1260 [1]	ND	0.80	mg/Kg	4	R-05	SW-846 8082A	11/9/14	11/11/14 22:40	KAL
Aroclor-1262 [1]	ND	0.80	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 22:40	KAL
Aroclor-1268 [1]	ND	0.80	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 22:40	KAL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	84.5	30-150						11/11/14 22:40	
Decachlorobiphenyl [2]	106	30-150						11/11/14 22:40	
Tetrachloro-m-xylene [1]	130	30-150						11/11/14 22:40	
Tetrachloro-m-xylene [2]	86.1	30-150						11/11/14 22:40	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love North

Sample Description:

Work Order: 14K0314

Date Received: 11/7/2014

Sampled: 11/6/2014 00:00

Field Sample #: LW2

Sample ID: 14K0314-04

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	100	R-05	SW-846 8082A	11/9/14	11/12/14 12:45	KAL
Aroclor-1221 [1]	ND	20	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 12:45	KAL
Aroclor-1232 [1]	ND	20	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 12:45	KAL
Aroclor-1242 [1]	ND	20	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 12:45	KAL
Aroclor-1248 [1]	ND	20	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 12:45	KAL
Aroclor-1254 [2]	240	20	mg/Kg	100	O-04	SW-846 8082A	11/9/14	11/12/14 12:45	KAL
Aroclor-1260 [2]	90	20	mg/Kg	100	O-04, R-05	SW-846 8082A	11/9/14	11/12/14 12:45	KAL
Aroclor-1262 [1]	ND	20	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 12:45	KAL
Aroclor-1268 [1]	ND	20	mg/Kg	100		SW-846 8082A	11/9/14	11/12/14 12:45	KAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	*	30-150			S-01			11/12/14 12:45	
Decachlorobiphenyl [2]	*	30-150			S-01			11/12/14 12:45	
Tetrachloro-m-xylene [1]	*	30-150			S-01			11/12/14 12:45	
Tetrachloro-m-xylene [2]	*	30-150			S-01			11/12/14 12:45	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love North

Sample Description:

Work Order: 14K0314

Date Received: 11/7/2014

Sampled: 11/6/2014 00:00

Field Sample #: LWT

Sample ID: 14K0314-05

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.79	mg/Kg	4	R-05	SW-846 8082A	11/9/14	11/11/14 23:16	KAL
Aroclor-1221 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:16	KAL
Aroclor-1232 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:16	KAL
Aroclor-1242 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:16	KAL
Aroclor-1248 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:16	KAL
Aroclor-1254 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:16	KAL
Aroclor-1260 [1]	ND	0.79	mg/Kg	4	R-05	SW-846 8082A	11/9/14	11/11/14 23:16	KAL
Aroclor-1262 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:16	KAL
Aroclor-1268 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:16	KAL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	79.3	30-150							
Decachlorobiphenyl [2]	97.3	30-150							
Tetrachloro-m-xylene [1]	51.3	30-150							
Tetrachloro-m-xylene [2]	47.8	30-150							

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love North

Sample Description:

Work Order: 14K0314

Date Received: 11/7/2014

Field Sample #: LSO

Sampled: 11/6/2014 00:00

Sample ID: 14K0314-06

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.79	mg/Kg	4	R-05	SW-846 8082A	11/9/14	11/11/14 23:34	KAL
Aroclor-1221 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:34	KAL
Aroclor-1232 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:34	KAL
Aroclor-1242 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:34	KAL
Aroclor-1248 [1]	6.8	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:34	KAL
Aroclor-1254 [1]	7.5	0.79	mg/Kg	4	P-04	SW-846 8082A	11/9/14	11/11/14 23:34	KAL
Aroclor-1260 [1]	ND	0.79	mg/Kg	4	R-05	SW-846 8082A	11/9/14	11/11/14 23:34	KAL
Aroclor-1262 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:34	KAL
Aroclor-1268 [1]	ND	0.79	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:34	KAL
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]	197	*	30-150		S-02		11/11/14 23:34		
Decachlorobiphenyl [2]	106		30-150				11/11/14 23:34		
Tetrachloro-m-xylene [1]	94.1		30-150				11/11/14 23:34		
Tetrachloro-m-xylene [2]	83.3		30-150				11/11/14 23:34		

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love North

Sample Description:

Work Order: 14K0314

Date Received: 11/7/2014

Sampled: 11/6/2014 00:00

Field Sample #: LSB

Sample ID: 14K0314-07

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.78	mg/Kg	4	R-05	SW-846 8082A	11/9/14	11/11/14 23:52	KAL
Aroclor-1221 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:52	KAL
Aroclor-1232 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:52	KAL
Aroclor-1242 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:52	KAL
Aroclor-1248 [2]	1.0	0.78	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:52	KAL
Aroclor-1254 [1]	1.4	0.78	mg/Kg	4	P-04	SW-846 8082A	11/9/14	11/11/14 23:52	KAL
Aroclor-1260 [1]	ND	0.78	mg/Kg	4	R-05	SW-846 8082A	11/9/14	11/11/14 23:52	KAL
Aroclor-1262 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:52	KAL
Aroclor-1268 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	11/9/14	11/11/14 23:52	KAL
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]	178	*	30-150		S-02		11/11/14 23:52		
Decachlorobiphenyl [2]	108		30-150				11/11/14 23:52		
Tetrachloro-m-xylene [1]	97.9		30-150				11/11/14 23:52		
Tetrachloro-m-xylene [2]	86.9		30-150				11/11/14 23:52		

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love North

Sample Description:

Work Order: 14K0314

Date Received: 11/7/2014

Field Sample #: LSC

Sampled: 11/6/2014 00:00

Sample ID: 14K0314-08

Sample Matrix: Caulk

Sample Flags: O-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [2]	ND	160	mg/Kg	800	R-05	SW-846 8082A	11/9/14	11/12/14 16:24	KAL
Aroclor-1221 [2]	ND	160	mg/Kg	800		SW-846 8082A	11/9/14	11/12/14 16:24	KAL
Aroclor-1232 [2]	ND	160	mg/Kg	800		SW-846 8082A	11/9/14	11/12/14 16:24	KAL
Aroclor-1242 [2]	ND	160	mg/Kg	800		SW-846 8082A	11/9/14	11/12/14 16:24	KAL
Aroclor-1248 [2]	ND	160	mg/Kg	800		SW-846 8082A	11/9/14	11/12/14 16:24	KAL
Aroclor-1254 [2]	ND	160	mg/Kg	800		SW-846 8082A	11/9/14	11/12/14 16:24	KAL
Aroclor-1260 [2]	ND	160	mg/Kg	800	R-05	SW-846 8082A	11/9/14	11/12/14 16:24	KAL
Aroclor-1262 [2]	ND	160	mg/Kg	800		SW-846 8082A	11/9/14	11/12/14 16:24	KAL
Aroclor-1268 [2]	ND	160	mg/Kg	800		SW-846 8082A	11/9/14	11/12/14 16:24	KAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	*	30-150			S-01			11/12/14 16:24	
Decachlorobiphenyl [2]	*	30-150			S-01			11/12/14 16:24	
Tetrachloro-m-xylene [1]	*	30-150			S-01			11/12/14 16:24	
Tetrachloro-m-xylene [2]	*	30-150			S-01			11/12/14 16:24	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love North

Sample Description:

Work Order: 14K0314

Date Received: 11/7/2014

Sampled: 11/6/2014 00:00

Field Sample #: LWO

Sample ID: 14K0314-09

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	20	R-05	SW-846 8082A	11/9/14	11/12/14 0:28	KAL
Aroclor-1221 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	11/9/14	11/12/14 0:28	KAL
Aroclor-1232 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	11/9/14	11/12/14 0:28	KAL
Aroclor-1242 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	11/9/14	11/12/14 0:28	KAL
Aroclor-1248 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	11/9/14	11/12/14 0:28	KAL
Aroclor-1254 [1]	12	4.0	mg/Kg	20	P-04	SW-846 8082A	11/9/14	11/12/14 0:28	KAL
Aroclor-1260 [1]	8.6	4.0	mg/Kg	20	P-04, R-05	SW-846 8082A	11/9/14	11/12/14 0:28	KAL
Aroclor-1262 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	11/9/14	11/12/14 0:28	KAL
Aroclor-1268 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	11/9/14	11/12/14 0:28	KAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	*	30-150			S-01			11/12/14 0:28	
Decachlorobiphenyl [2]	*	30-150			S-01			11/12/14 0:28	
Tetrachloro-m-xylene [1]	*	30-150			S-01			11/12/14 0:28	
Tetrachloro-m-xylene [2]	*	30-150			S-01			11/12/14 0:28	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14K0314-01 [LWB]	B109252	0.497	10.0	11/09/14
14K0314-02 [LFC]	B109252	0.515	10.0	11/09/14
14K0314-03 [LW1]	B109252	0.499	10.0	11/09/14
14K0314-04 [LW2]	B109252	0.510	10.0	11/09/14
14K0314-05 [LWT]	B109252	0.509	10.0	11/09/14
14K0314-06 [LSO]	B109252	0.508	10.0	11/09/14
14K0314-07 [LSB]	B109252	0.511	10.0	11/09/14
14K0314-08 [LSC]	B109252	0.501	10.0	11/09/14
14K0314-09 [LWO]	B109252	0.498	10.0	11/09/14

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B109252 - SW-846 3540C										
Blank (B109252-BLK1)										
Prepared: 11/09/14 Analyzed: 11/11/14										
Aroclor-1016	ND	0.20	mg/Kg							R-05
Aroclor-1016 [2C]	ND	0.20	mg/Kg							R-05
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							R-05
Aroclor-1260 [2C]	ND	0.20	mg/Kg							R-05
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	4.35		mg/Kg	4.00		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	4.80		mg/Kg	4.00		120	30-150			
Surrogate: Tetrachloro-m-xylene	4.33		mg/Kg	4.00		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	3.57		mg/Kg	4.00		89.2	30-150			
LCS (B109252-BS1)										
Prepared: 11/09/14 Analyzed: 11/11/14										
Aroclor-1016	2.9	0.20	mg/Kg	4.00		73.0	40-140			R-05
Aroclor-1016 [2C]	2.9	0.20	mg/Kg	4.00		71.8	40-140			R-05
Aroclor-1260	3.3	0.20	mg/Kg	4.00		83.6	40-140			R-05
Aroclor-1260 [2C]	3.3	0.20	mg/Kg	4.00		81.8	40-140			R-05
Surrogate: Decachlorobiphenyl	3.61		mg/Kg	4.00		90.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	4.07		mg/Kg	4.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	3.49		mg/Kg	4.00		87.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	2.94		mg/Kg	4.00		73.6	30-150			
LCS Dup (B109252-BSD1)										
Prepared: 11/09/14 Analyzed: 11/11/14										
Aroclor-1016	2.1	0.20	mg/Kg	4.00		51.6	40-140	34.4 *	30	R-05
Aroclor-1016 [2C]	2.1	0.20	mg/Kg	4.00		51.7	40-140	32.5 *	30	R-05
Aroclor-1260	2.0	0.20	mg/Kg	4.00		50.2	40-140	49.8 *	30	R-05
Aroclor-1260 [2C]	2.1	0.20	mg/Kg	4.00		53.5	40-140	41.9 *	30	R-05
Surrogate: Decachlorobiphenyl	2.00		mg/Kg	4.00		49.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	2.37		mg/Kg	4.00		59.2	30-150			
Surrogate: Tetrachloro-m-xylene	1.71		mg/Kg	4.00		42.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.54		mg/Kg	4.00		38.5	30-150			

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***SW-846 8082A***LWB**Lab Sample ID: 14K0314-01 Date(s) Analyzed: 11/11/2014 11/11/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1248	1	0.00	0.00	0.00	30	
	2	0.00	0.00	0.00	26	15.6

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LFC

Lab Sample ID: 14K0314-02 Date(s) Analyzed: 11/12/2014 11/12/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	180	
	2	0.00	0.00	0.00	210	13.2
Aroclor-1260	1	0.00	0.00	0.00	36	
	2	0.00	0.00	0.00	63	55.3

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***SW-846 8082A***LW2**Lab Sample ID: 14K0314-04 Date(s) Analyzed: 11/12/2014 11/12/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	220	
	2	0.00	0.00	0.00	240	9.2
Aroclor-1260	1	0.00	0.00	0.00	69	
	2	0.00	0.00	0.00	90	26.6

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LSO

Lab Sample ID: 14K0314-06 Date(s) Analyzed: 11/11/2014 11/11/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1248	1	0.00	0.00	0.00	6.8	
	2	0.00	0.00	0.00	6.7	1.9
Aroclor-1254	1	0.00	0.00	0.00	7.5	
	2	0.00	0.00	0.00	7.8	4.3

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***SW-846 8082A***LSB**Lab Sample ID: 14K0314-07 Date(s) Analyzed: 11/11/2014 11/11/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1248	1	0.00	0.00	0.00	1.0	
	2	0.00	0.00	0.00	1.0	2.0
Aroclor-1254	1	0.00	0.00	0.00	1.4	
	2	0.00	0.00	0.00	1.9	29.6

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LWO

Lab Sample ID: 14K0314-09 Date(s) Analyzed: 11/12/2014 11/12/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	12	
	2	0.00	0.00	0.00	13	8.8
Aroclor-1260	1	0.00	0.00	0.00	8.6	
	2	0.00	0.00	0.00	10	15.2

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B109252-BS1 Date(s) Analyzed: 11/11/2014 11/11/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	2.9	
	2	0.00	0.00	0.00	2.9	1
Aroclor-1260	1	0.00	0.00	0.00	3.3	
	2	0.00	0.00	0.00	3.3	1

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B109252-BSD1 Date(s) Analyzed: 11/11/2014 11/11/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	2.1	
	2	0.00	0.00	0.00	2.1	2
Aroclor-1260	1	0.00	0.00	0.00	2.0	
	2	0.00	0.00	0.00	2.1	4

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
O-04	Sample fingerprint does not match standard exactly. Sample was quantitated against the closest matching standard.
O-27	Elevated reporting limit due to sample matrix interference. Multiple extract clean-up procedures were performed on this sample, but they did not sufficiently remove the interference to meet the requested reporting limit.
P-01	Result was confirmed using a dissimilar column. Relative percent difference between the two results was >40%. In accordance with the method, the higher result was reported.
P-04	Due to continuing calibration non-conformance on the confirmatory detector, the lower of two results was reported.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
---------	----------------

No certified Analyses included in this Report

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2015
RI	Rhode Island Department of Health	LAO00112	12/30/2014
NC	North Carolina Div. of Water Quality	652	12/31/2014
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2015
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2014
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com
 www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
 East longmeadow, MA 01028

Page _____ of _____

Company Name: University of Nebraska - Lincoln

Telephone: 402-472-2157

Address: 3630 East Campus Loop

Project #

Client PO#

DATA DELIVERY (check all that apply)

☐ FAX ☒ EMAIL ☐ WEBSITE

Fax #

Email: iwebb2@unl.edu

Format: ☒ PDF ☐ EXCEL ☐ OGIS

☐ OTHER

☐ "Enhanced Data Package"

Collection

Beginning Date/Time

Ending Date/Time

Composite

*Matrix Code

Conc Code

Con-Test Lab ID (laboratory use only)

Client Sample ID / Description

01 LWB

02 LFC

03 LW1

04 LW2

05 LWT

06 LSO

07 LSB

08 LSC

09 LWO

Comments:

Soxlet PCB analysis with most rapid turnaround

Relinquished by: (signature)

Date/Time: 11/6/14 14:00

Received by: (signature)

Date/Time: 9:38

Relinquished by: (signature)

Date/Time: 11/7/14

Received by: (signature)

Date/Time:

Detection Limit Requirements

Massachusetts:

Connecticut:

Other:

Is your project MCP or RCP?

☐ MCP Form Required

☐ RCP Form Required

☐ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC

Accredited

WBE/DBE Certified



50 ppm

Require lab approval

☐ 24-Hr ☒ 48-Hr

☐ 72-Hr ☐ 14-Day

☐ RUSH ☐ 14-Day

☐ 14-Day

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR

IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

FedEx[®] Tracking**546417995810**Ship (P/U) date :
Thur 11/06/2014 3:25 pm

Lincoln, NE US

Actual delivery :
Fri 11/07/2014 9:38 am

EAST LONGMEADOW, MA US

**Delivered**

Signed for by: A.JONES

Travel History

▲ Date/Time	Activity	Location
■ 11/07/2014 - Friday		
9:38 am	Delivered	EAST LONGMEADOW, MA
8:18 am	On FedEx vehicle for delivery	WINDSOR LOCKS, CT
7:56 am	At local FedEx facility	WINDSOR LOCKS, CT
7:03 am	At destination sort facility	EAST GRANBY, CT
3:42 am	Departed FedEx location	MEMPHIS, TN
■ 11/06/2014 - Thursday		
10:56 pm	Arrived at FedEx location	MEMPHIS, TN
7:23 pm	Left FedEx origin facility	LINCOLN, NE
3:38 pm	Shipment information sent to FedEx	
3:25 pm	Picked up	LINCOLN, NE

Shipment Facts

Tracking number	546417995810	Service	FedEx Priority Overnight
Weight	1 lbs / 0.45 kgs	Delivered To	Shipping/Receiving
Total pieces	1	Total shipment weight	1 lbs / 0.45 kgs
Shipper reference	EHS - Behlen	Shipper reference	2243404801
Packaging	FedEx Pak	Special handling section	Deliver Weekday

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com



Page 1 of 2



Sample Receipt Checklist

CLIENT NAME: University of Nebraska RECEIVED BY: MT DATE: 11/7/14

- 1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included
- 2) Does the chain agree with the samples? Yes No
- If not, explain:
- 3) Are all the samples in good condition? Yes No
- If not, explain:
- 4) How were the samples received:

On Ice ☐ Direct from Sampling ☐ Ambient ☒ In Cooler(s) ☐

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun 20.0 °C

5) Are there Dissolved samples for the lab to filter? Yes No

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified Ext. Date 11/7/14 Time 9:38

7) Location where samples are stored:

19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Plastic Bag / Ziploc	<u>9</u>
500 mL Plastic		SOC Kit	
250 mL plastic		Non-ConTest Container	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Doc# 277 # Bisulfate _____ # DI Water _____

Rev. 4 August 2013 # Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

<u>Question</u>	<u>Answer (True/False)</u>	<u>Comment</u>
	T/F/NA	
1) The cooler's custody seal, if present, is intact.	T	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	F	
4) Cooler Temperature is acceptable.	F	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	NA	
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	T	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements?

Date/Time:

Doc #277 Rev. 4 August 2013

Log-In Technician Initials:

Date/Time:

MS 11/7/14 9:38

November 26, 2014

Joel Webb
Single Projects
3630 East Campus Loop
Lincoln, Nebraska 68507

Project Location: Love
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 14K0982

Enclosed are results of analyses for samples received by the laboratory on November 21, 2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Aaron L. Benoit", with a long horizontal line extending to the right.

Aaron L. Benoit
Project Manager

Table of Contents

Sample Summary	3
Case Narrative	4
Sample Results	5
14K0982-01	5
14K0982-02	6
14K0982-03	7
14K0982-04	8
14K0982-05	9
14K0982-06	10
14K0982-07	11
14K0982-08	12
14K0982-09	13
Sample Preparation Information	14
QC Data	15
Polychlorinated Biphenyls with 3540 Soxhlet Extraction	15
B110352	15
B110411	16
B110453	17
Dual Column RPD Report	19
Flag/Qualifier Summary	32
Certifications	33
Chain of Custody/Sample Receipt	34

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Single Projects
3630 East Campus Loop
Lincoln, Nebraska 68507
ATTN: Joel Webb

REPORT DATE: 11/26/2014

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 14K0982

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Love

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
EKE	14K0982-01	Caulk		SW-846 8082A	
EKS	14K0982-02	Caulk		SW-846 8082A	
EKW	14K0982-03	Caulk		SW-846 8082A	
EKN	14K0982-04	Caulk		SW-846 8082A	
ICW	14K0982-05	Caulk		SW-846 8082A	
IF	14K0982-06	Product/Solid		SW-846 8082A	
EFC	14K0982-07	Product/Solid		SW-846 8082A	
EFD	14K0982-08	Product/Solid		SW-846 8082A	
ES	14K0982-09	Product/Solid		SW-846 8082A	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

O-04

Sample fingerprint does not match standard exactly. Sample was quantitated against the closest matching standard.

Analyte & Samples(s) Qualified:

Aroclor-1254

14K0982-02[EKS], 14K0982-03[EKW], 14K0982-04[EKN], 14K0982-05[ICW]

Aroclor-1254 [2C]

14K0982-02[EKS], 14K0982-03[EKW], 14K0982-04[EKN], 14K0982-05[ICW]

Aroclor-1260

14K0982-02[EKS], 14K0982-03[EKW], 14K0982-04[EKN], 14K0982-05[ICW]

Aroclor-1260 [2C]

14K0982-02[EKS], 14K0982-03[EKW], 14K0982-04[EKN], 14K0982-05[ICW]

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl

14K0982-01[EKE], 14K0982-02[EKS], 14K0982-03[EKW], 14K0982-04[EKN], 14K0982-05[ICW]

Decachlorobiphenyl [2C]

14K0982-01[EKE], 14K0982-02[EKS], 14K0982-03[EKW], 14K0982-04[EKN], 14K0982-05[ICW]

Tetrachloro-m-xylene

14K0982-01[EKE], 14K0982-02[EKS], 14K0982-03[EKW], 14K0982-04[EKN], 14K0982-05[ICW]

Tetrachloro-m-xylene [2C]

14K0982-01[EKE], 14K0982-02[EKS], 14K0982-03[EKW], 14K0982-04[EKN], 14K0982-05[ICW]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Tod E. Kopyscinski
Laboratory Director

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love

Sample Description:

Work Order: 14K0982

Date Received: 11/21/2014

Sampled: 11/20/2014 00:00

Field Sample #: EKE

Sample ID: 14K0982-01

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/24/14	11/25/14 23:03	KAL
Aroclor-1221 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/24/14	11/25/14 23:03	KAL
Aroclor-1232 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/24/14	11/25/14 23:03	KAL
Aroclor-1242 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/24/14	11/25/14 23:03	KAL
Aroclor-1248 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/24/14	11/25/14 23:03	KAL
Aroclor-1254 [2]	370	36	mg/Kg	200		SW-846 8082A	11/24/14	11/25/14 23:03	KAL
Aroclor-1260 [2]	96	36	mg/Kg	200		SW-846 8082A	11/24/14	11/25/14 23:03	KAL
Aroclor-1262 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/24/14	11/25/14 23:03	KAL
Aroclor-1268 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/24/14	11/25/14 23:03	KAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	*	30-150			S-01			11/25/14 23:03	
Decachlorobiphenyl [2]	*	30-150			S-01			11/25/14 23:03	
Tetrachloro-m-xylene [1]	*	30-150			S-01			11/25/14 23:03	
Tetrachloro-m-xylene [2]	*	30-150			S-01			11/25/14 23:03	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love

Sample Description:

Work Order: 14K0982

Date Received: 11/21/2014

Sampled: 11/20/2014 00:00

Field Sample #: EKS

Sample ID: 14K0982-02

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	34	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 17:43	KAL
Aroclor-1221 [1]	ND	34	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 17:43	KAL
Aroclor-1232 [1]	ND	34	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 17:43	KAL
Aroclor-1242 [1]	ND	34	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 17:43	KAL
Aroclor-1248 [1]	ND	34	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 17:43	KAL
Aroclor-1254 [2]	170	34	mg/Kg	200	O-04	SW-846 8082A	11/21/14	11/25/14 17:43	KAL
Aroclor-1260 [2]	50	34	mg/Kg	200	O-04	SW-846 8082A	11/21/14	11/25/14 17:43	KAL
Aroclor-1262 [1]	ND	34	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 17:43	KAL
Aroclor-1268 [1]	ND	34	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 17:43	KAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	*	30-150			S-01			11/25/14 17:43	
Decachlorobiphenyl [2]	*	30-150			S-01			11/25/14 17:43	
Tetrachloro-m-xylene [1]	*	30-150			S-01			11/25/14 17:43	
Tetrachloro-m-xylene [2]	*	30-150			S-01			11/25/14 17:43	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love

Sample Description:

Work Order: 14K0982

Date Received: 11/21/2014

Sampled: 11/20/2014 00:00

Field Sample #: EKW

Sample ID: 14K0982-03

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:01	KAL
Aroclor-1221 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:01	KAL
Aroclor-1232 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:01	KAL
Aroclor-1242 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:01	KAL
Aroclor-1248 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:01	KAL
Aroclor-1254 [2]	300	36	mg/Kg	200	O-04	SW-846 8082A	11/21/14	11/25/14 18:01	KAL
Aroclor-1260 [2]	94	36	mg/Kg	200	O-04	SW-846 8082A	11/21/14	11/25/14 18:01	KAL
Aroclor-1262 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:01	KAL
Aroclor-1268 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:01	KAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	*	30-150			S-01			11/25/14 18:01	
Decachlorobiphenyl [2]	*	30-150			S-01			11/25/14 18:01	
Tetrachloro-m-xylene [1]	*	30-150			S-01			11/25/14 18:01	
Tetrachloro-m-xylene [2]	*	30-150			S-01			11/25/14 18:01	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love

Sample Description:

Work Order: 14K0982

Date Received: 11/21/2014

Sampled: 11/20/2014 00:00

Field Sample #: EKN

Sample ID: 14K0982-04

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:19	KAL
Aroclor-1221 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:19	KAL
Aroclor-1232 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:19	KAL
Aroclor-1242 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:19	KAL
Aroclor-1248 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:19	KAL
Aroclor-1254 [2]	240	36	mg/Kg	200	O-04	SW-846 8082A	11/21/14	11/25/14 18:19	KAL
Aroclor-1260 [2]	70	36	mg/Kg	200	O-04	SW-846 8082A	11/21/14	11/25/14 18:19	KAL
Aroclor-1262 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:19	KAL
Aroclor-1268 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:19	KAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	*	30-150			S-01			11/25/14 18:19	
Decachlorobiphenyl [2]	*	30-150			S-01			11/25/14 18:19	
Tetrachloro-m-xylene [1]	*	30-150			S-01			11/25/14 18:19	
Tetrachloro-m-xylene [2]	*	30-150			S-01			11/25/14 18:19	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love

Sample Description:

Work Order: 14K0982

Date Received: 11/21/2014

Sampled: 11/20/2014 00:00

Field Sample #: ICW

Sample ID: 14K0982-05

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:37	KAL
Aroclor-1221 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:37	KAL
Aroclor-1232 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:37	KAL
Aroclor-1242 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:37	KAL
Aroclor-1248 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:37	KAL
Aroclor-1254 [2]	280	36	mg/Kg	200	O-04	SW-846 8082A	11/21/14	11/25/14 18:37	KAL
Aroclor-1260 [2]	81	36	mg/Kg	200	O-04	SW-846 8082A	11/21/14	11/25/14 18:37	KAL
Aroclor-1262 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:37	KAL
Aroclor-1268 [1]	ND	36	mg/Kg	200		SW-846 8082A	11/21/14	11/25/14 18:37	KAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	*	30-150			S-01			11/25/14 18:37	
Decachlorobiphenyl [2]	*	30-150			S-01			11/25/14 18:37	
Tetrachloro-m-xylene [1]	*	30-150			S-01			11/25/14 18:37	
Tetrachloro-m-xylene [2]	*	30-150			S-01			11/25/14 18:37	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love

Sample Description:

Work Order: 14K0982

Date Received: 11/21/2014

Sampled: 11/20/2014 00:00

Field Sample #: IF

Sample ID: 14K0982-06

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:35	KAL
Aroclor-1221 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:35	KAL
Aroclor-1232 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:35	KAL
Aroclor-1242 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:35	KAL
Aroclor-1248 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:35	KAL
Aroclor-1254 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:35	KAL
Aroclor-1260 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:35	KAL
Aroclor-1262 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:35	KAL
Aroclor-1268 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:35	KAL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	96.6	30-150							
Decachlorobiphenyl [2]	116	30-150							
Tetrachloro-m-xylene [1]	104	30-150							
Tetrachloro-m-xylene [2]	122	30-150							

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love

Sample Description:

Work Order: 14K0982

Date Received: 11/21/2014

Sampled: 11/20/2014 00:00

Field Sample #: EFC

Sample ID: 14K0982-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:48	KAL
Aroclor-1221 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:48	KAL
Aroclor-1232 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:48	KAL
Aroclor-1242 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:48	KAL
Aroclor-1248 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:48	KAL
Aroclor-1254 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:48	KAL
Aroclor-1260 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:48	KAL
Aroclor-1262 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:48	KAL
Aroclor-1268 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 13:48	KAL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	100	30-150							
Decachlorobiphenyl [2]	119	30-150							
Tetrachloro-m-xylene [1]	105	30-150							
Tetrachloro-m-xylene [2]	124	30-150							

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love

Sample Description:

Work Order: 14K0982

Date Received: 11/21/2014

Field Sample #: EFD

Sampled: 11/20/2014 00:00

Sample ID: 14K0982-08

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:00	KAL
Aroclor-1221 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:00	KAL
Aroclor-1232 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:00	KAL
Aroclor-1242 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:00	KAL
Aroclor-1248 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:00	KAL
Aroclor-1254 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:00	KAL
Aroclor-1260 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:00	KAL
Aroclor-1262 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:00	KAL
Aroclor-1268 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:00	KAL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	96.0	30-150						11/25/14 14:00	
Decachlorobiphenyl [2]	113	30-150						11/25/14 14:00	
Tetrachloro-m-xylene [1]	102	30-150						11/25/14 14:00	
Tetrachloro-m-xylene [2]	120	30-150						11/25/14 14:00	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Love

Sample Description:

Work Order: 14K0982

Date Received: 11/21/2014

Field Sample #: ES

Sampled: 11/20/2014 00:00

Sample ID: 14K0982-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:13	KAL
Aroclor-1221 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:13	KAL
Aroclor-1232 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:13	KAL
Aroclor-1242 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:13	KAL
Aroclor-1248 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:13	KAL
Aroclor-1254 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:13	KAL
Aroclor-1260 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:13	KAL
Aroclor-1262 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:13	KAL
Aroclor-1268 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/24/14	11/25/14 14:13	KAL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	105	30-150						11/25/14 14:13	
Decachlorobiphenyl [2]	123	30-150						11/25/14 14:13	
Tetrachloro-m-xylene [1]	108	30-150						11/25/14 14:13	
Tetrachloro-m-xylene [2]	128	30-150						11/25/14 14:13	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14K0982-02 [EKS]	B110352	0.592	10.0	11/21/14
14K0982-03 [EKW]	B110352	0.551	10.0	11/21/14
14K0982-04 [EKN]	B110352	0.556	10.0	11/21/14
14K0982-05 [ICW]	B110352	0.549	10.0	11/21/14

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14K0982-01 [EKE]	B110453	0.560	10.0	11/24/14

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14K0982-06 [IF]	B110411	2.04	10.0	11/24/14
14K0982-07 [EFC]	B110411	2.06	10.0	11/24/14
14K0982-08 [EFD]	B110411	2.03	10.0	11/24/14
14K0982-09 [ES]	B110411	2.02	10.0	11/24/14

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B110352 - SW-846 3540C

Blank (B110352-BLK1)

Prepared: 11/21/14 Analyzed: 11/25/14

Aroclor-1016	ND	0.20	mg/Kg							
Aroclor-1016 [2C]	ND	0.20	mg/Kg							
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							
Aroclor-1260 [2C]	ND	0.20	mg/Kg							
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	2.92		mg/Kg	4.00		73.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	3.09		mg/Kg	4.00		77.3	30-150			
Surrogate: Tetrachloro-m-xylene	1.84		mg/Kg	4.00		46.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.93		mg/Kg	4.00		48.3	30-150			

LCS (B110352-BS1)

Prepared: 11/21/14 Analyzed: 11/25/14

Aroclor-1016	3.5	0.20	mg/Kg	4.00		86.7	40-140			
Aroclor-1016 [2C]	3.7	0.20	mg/Kg	4.00		93.0	40-140			
Aroclor-1260	3.5	0.20	mg/Kg	4.00		86.3	40-140			
Aroclor-1260 [2C]	3.7	0.20	mg/Kg	4.00		91.6	40-140			
Surrogate: Decachlorobiphenyl	3.85		mg/Kg	4.00		96.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	4.11		mg/Kg	4.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	3.55		mg/Kg	4.00		88.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	3.70		mg/Kg	4.00		92.6	30-150			

LCS Dup (B110352-BSD1)

Prepared: 11/21/14 Analyzed: 11/25/14

Aroclor-1016	3.5	0.20	mg/Kg	4.00		88.7	40-140	2.20	30	
Aroclor-1016 [2C]	3.8	0.20	mg/Kg	4.00		95.0	40-140	2.10	30	
Aroclor-1260	3.5	0.20	mg/Kg	4.00		87.5	40-140	1.41	30	
Aroclor-1260 [2C]	3.8	0.20	mg/Kg	4.00		93.9	40-140	2.49	30	
Surrogate: Decachlorobiphenyl	3.79		mg/Kg	4.00		94.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	4.08		mg/Kg	4.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	3.49		mg/Kg	4.00		87.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	3.67		mg/Kg	4.00		91.9	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B110411 - SW-846 3540C

Blank (B110411-BLK1)

Prepared: 11/24/14 Analyzed: 11/25/14

Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	0.912		mg/Kg	1.00		91.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.08		mg/Kg	1.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	0.945		mg/Kg	1.00		94.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.11		mg/Kg	1.00		111	30-150			

LCS (B110411-BS1)

Prepared: 11/24/14 Analyzed: 11/25/14

Aroclor-1016	0.19	0.10	mg/Kg	0.250		76.0	40-140			
Aroclor-1016 [2C]	0.20	0.10	mg/Kg	0.250		82.0	40-140			
Aroclor-1260	0.16	0.10	mg/Kg	0.250		65.1	40-140			
Aroclor-1260 [2C]	0.19	0.10	mg/Kg	0.250		75.2	40-140			
Surrogate: Decachlorobiphenyl	0.645		mg/Kg	1.00		64.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.744		mg/Kg	1.00		74.4	30-150			
Surrogate: Tetrachloro-m-xylene	0.760		mg/Kg	1.00		76.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.874		mg/Kg	1.00		87.4	30-150			

LCS Dup (B110411-BSD1)

Prepared: 11/24/14 Analyzed: 11/25/14

Aroclor-1016	0.19	0.10	mg/Kg	0.250		75.8	40-140	0.322	30	
Aroclor-1016 [2C]	0.20	0.10	mg/Kg	0.250		80.9	40-140	1.38	30	
Aroclor-1260	0.16	0.10	mg/Kg	0.250		62.8	40-140	3.59	30	
Aroclor-1260 [2C]	0.18	0.10	mg/Kg	0.250		73.9	40-140	1.75	30	
Surrogate: Decachlorobiphenyl	0.603		mg/Kg	1.00		60.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.696		mg/Kg	1.00		69.6	30-150			
Surrogate: Tetrachloro-m-xylene	0.730		mg/Kg	1.00		73.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.831		mg/Kg	1.00		83.1	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B110411 - SW-846 3540C

Matrix Spike (B110411-MS1)		Source: 14K0982-06		Prepared: 11/24/14 Analyzed: 11/25/14						
Aroclor-1016	0.23	0.098	mg/Kg	0.245	ND	92.4	40-140			
Aroclor-1016 [2C]	0.25	0.098	mg/Kg	0.245	ND	104	40-140			
Aroclor-1260	0.18	0.098	mg/Kg	0.245	ND	72.3	40-140			
Aroclor-1260 [2C]	0.21	0.098	mg/Kg	0.245	ND	87.0	40-140			
Surrogate: Decachlorobiphenyl	0.731		mg/Kg	0.980		74.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.930		mg/Kg	0.980		94.9	30-150			
Surrogate: Tetrachloro-m-xylene	0.936		mg/Kg	0.980		95.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.08		mg/Kg	0.980		110	30-150			

Matrix Spike Dup (B110411-MSD1)		Source: 14K0982-06		Prepared: 11/24/14 Analyzed: 11/25/14						
Aroclor-1016	0.26	0.098	mg/Kg	0.245	ND	108	40-140	15.5	50	
Aroclor-1016 [2C]	0.30	0.098	mg/Kg	0.245	ND	122	40-140	16.5	50	
Aroclor-1260	0.20	0.098	mg/Kg	0.245	ND	80.0	40-140	10.1	50	
Aroclor-1260 [2C]	0.25	0.098	mg/Kg	0.245	ND	104	40-140	17.7	50	
Surrogate: Decachlorobiphenyl	0.918		mg/Kg	0.980		93.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.17		mg/Kg	0.980		119	30-150			
Surrogate: Tetrachloro-m-xylene	1.05		mg/Kg	0.980		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.23		mg/Kg	0.980		126	30-150			

Batch B110453 - SW-846 3540C

Blank (B110453-BLK1)		Prepared: 11/24/14 Analyzed: 11/25/14								
Aroclor-1016	ND	0.20	mg/Kg							
Aroclor-1016 [2C]	ND	0.20	mg/Kg							
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							
Aroclor-1260 [2C]	ND	0.20	mg/Kg							
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	3.40		mg/Kg	4.00		85.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	3.53		mg/Kg	4.00		88.3	30-150			
Surrogate: Tetrachloro-m-xylene	2.58		mg/Kg	4.00		64.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	2.65		mg/Kg	4.00		66.2	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B110453 - SW-846 3540C

LCS (B110453-BS1)

Prepared: 11/24/14 Analyzed: 11/25/14

Aroclor-1016	3.1	0.20	mg/Kg	4.00		77.9	40-140			
Aroclor-1016 [2C]	3.2	0.20	mg/Kg	4.00		80.6	40-140			
Aroclor-1260	3.4	0.20	mg/Kg	4.00		85.0	40-140			
Aroclor-1260 [2C]	3.5	0.20	mg/Kg	4.00		87.8	40-140			
Surrogate: Decachlorobiphenyl	3.91		mg/Kg	4.00		97.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	4.12		mg/Kg	4.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	3.28		mg/Kg	4.00		81.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	3.35		mg/Kg	4.00		83.7	30-150			

LCS Dup (B110453-BSD1)

Prepared: 11/24/14 Analyzed: 11/25/14

Aroclor-1016	3.4	0.20	mg/Kg	4.00		85.3	40-140	9.02	30	
Aroclor-1016 [2C]	3.5	0.20	mg/Kg	4.00		88.5	40-140	9.35	30	
Aroclor-1260	3.7	0.20	mg/Kg	4.00		92.7	40-140	8.72	30	
Aroclor-1260 [2C]	3.9	0.20	mg/Kg	4.00		96.6	40-140	9.56	30	
Surrogate: Decachlorobiphenyl	4.11		mg/Kg	4.00		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	4.33		mg/Kg	4.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	3.39		mg/Kg	4.00		84.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	3.49		mg/Kg	4.00		87.2	30-150			

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

EKE

Lab Sample ID: 14K0982-01 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	340	
	2	0.00	0.00	0.00	370	9.9
Aroclor-1260	1	0.00	0.00	0.00	84	
	2	0.00	0.00	0.00	96	13.5

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***SW-846 8082A***EKS**Lab Sample ID: 14K0982-02 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	140	
	2	0.00	0.00	0.00	170	20.1
Aroclor-1260	1	0.00	0.00	0.00	41	
	2	0.00	0.00	0.00	50	20.0

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES**

SW-846 8082A

EKW

Lab Sample ID: 14K0982-03 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	270	
	2	0.00	0.00	0.00	300	10.2
Aroclor-1260	1	0.00	0.00	0.00	73	
	2	0.00	0.00	0.00	94	25.1

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

EKN

Lab Sample ID: 14K0982-04 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	220	
	2	0.00	0.00	0.00	240	10.1
Aroclor-1260	1	0.00	0.00	0.00	58	
	2	0.00	0.00	0.00	70	18.1

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***SW-846 8082A***ICW**Lab Sample ID: 14K0982-05 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	240	
	2	0.00	0.00	0.00	280	17.1
Aroclor-1260	1	0.00	0.00	0.00	68	
	2	0.00	0.00	0.00	81	17.6

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES**

SW-846 8082A

LCS

Lab Sample ID: B110352-BS1 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	3.5	
	2	0.00	0.00	0.00	3.7	6
Aroclor-1260	1	0.00	0.00	0.00	3.5	
	2	0.00	0.00	0.00	3.7	7

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***SW-846 8082A***LCS Dup**Lab Sample ID: B110352-BSD1 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	3.5	
	2	0.00	0.00	0.00	3.8	7
Aroclor-1260	1	0.00	0.00	0.00	3.5	
	2	0.00	0.00	0.00	3.8	8

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES**

SW-846 8082A

LCS

Lab Sample ID: B110411-BS1 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.19	
	2	0.00	0.00	0.00	0.20	5
Aroclor-1260	1	0.00	0.00	0.00	0.16	
	2	0.00	0.00	0.00	0.19	15

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES**

SW-846 8082A

LCS Dup

Lab Sample ID: B110411-BSD1 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.19	
	2	0.00	0.00	0.00	0.20	6
Aroclor-1260	1	0.00	0.00	0.00	0.16	
	2	0.00	0.00	0.00	0.18	14

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES**

SW-846 8082A

Matrix Spike

Lab Sample ID: B110411-MS1 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.23	
	2	0.00	0.00	0.00	0.25	10
Aroclor-1260	1	0.00	0.00	0.00	0.18	
	2	0.00	0.00	0.00	0.21	17

IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B110411-MSD1 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.26	
	2	0.00	0.00	0.00	0.30	13
Aroclor-1260	1	0.00	0.00	0.00	0.20	
	2	0.00	0.00	0.00	0.25	24

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***SW-846 8082A***LCS**Lab Sample ID: B110453-BS1 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	3.1	
	2	0.00	0.00	0.00	3.2	3
Aroclor-1260	1	0.00	0.00	0.00	3.4	
	2	0.00	0.00	0.00	3.5	3

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES**

SW-846 8082A

LCS Dup

Lab Sample ID: B110453-BSD1 Date(s) Analyzed: 11/25/2014 11/25/2014

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	3.4	
	2	0.00	0.00	0.00	3.5	3
Aroclor-1260	1	0.00	0.00	0.00	3.7	
	2	0.00	0.00	0.00	3.9	5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
O-04	Sample fingerprint does not match standard exactly. Sample was quantitated against the closest matching standard.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

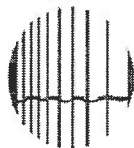
CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8082A in Product/Solid</i>	
Aroclor-1016	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1221	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1232	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1242	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1248	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1254	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1260	CT,NH,NY,ME,NC,VA,NJ
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,NJ

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2015
RI	Rhode Island Department of Health	LAO00112	12/30/2014
NC	North Carolina Div. of Water Quality	652	12/31/2014
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2015
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2014
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015



con-test

ANALYTICAL LABORATORY

Phone: 413-525-2332

Fax: 413-525-6405

Email: info@contestlabs.com

www.contestlabs.com

CHAIN OF CUSTODY RECORD

14K0982

Rev 04.05.12

39 Spruce Street

East longmeadow, MA 01028

Page ____ of ____

Company Name: University of Nebraska - Lincoln

Telephone: 402-472-2157

Address: 3630 East Campus Loop

Project #

Client PO#

Attention: Joel Webb

DATA DELIVERY (check all that apply)

☐ FAX ☒ EMAIL ☐ WEBSITE

Project Location: Love

Fax #

Sampled By: Joel Webb

Email: jwebb2@unl.edu

Project Proposal Provided? (for billing purposes)

☐ yes ☐ proposal date

Format: ☒ PDF ☐ EXCEL ☐ GIS

☐ OTHER

☐ "Enhanced Data Package"

Collection

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code
01	EKE	11/20/2014	11/20/2014		x	s	u
02	EKS	11/20/2014	11/20/2014		x	s	u
03	EKW	11/20/2014	11/20/2014		x	s	u
04	EKN	11/20/2014	11/20/2014		x	s	u
05	ICW	11/20/2014	11/20/2014		x	s	u
06	IF	11/20/2014	11/20/2014		x	s	u
07	EFC	11/20/2014	11/20/2014		x	s	u
08	EFD	11/20/2014	11/20/2014		x	s	u
09	ES	11/20/2014	11/20/2014		x	s	u

Soxlet PCB (3540C)

ANALYSIS REQUESTED

of Containers

** Preservation

***Container Code

Dissolved Metals

☐ Field Filtered

☐ Lab to Filter

***Cont. Code:

A=amber glass

G=glass

P=plastic

ST=sterile

V= vial

S=summa can

T=tedlar bag

O=Other

**Preservation

I = Iced

H = HCL

M = Methanol

N = Nitric Acid

S = Sulfuric Acid

B = Sodium bisulfate

X = Na hydroxide

T = Na thiosulfate

O = Other

*Matrix Code:

GW= groundwater

WW= wastewater

DW= drinking water

A = air

S = soil/solid

SL = sludge

O = other

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Soxlet PCB analysis RUSH

Relinquished by: (signature)

Date/Time:

Turnaround ^{††}

☐ 7-Day

☐ 10-Day

☐ Other

RUSH [†]

☐ 24-Hr ☐ 48-Hr

☒ 72-Hr ☐ 14-Day

[†] Require lab approval

Detection Limit Requirements

Massachusetts:

Connecticut:

Other:

50 ppm

Is your project MCP or RCP ?

☐ MCP Form Required

☐ RCP Form Required

☐ MA State DW Form Required PWSID #



NELAC & AIHA-LAP, LLC

Accredited

WBE/DBE Certified

^{††} TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

IMPORTANT!**A winter storm is causing potential delays and disruptions in the northeastern U.S. [Learn More](#)**

FedEx Tracking

546417995820Ship (P/U) date :
Thur 11/20/2014 3:31 pm

Lincoln, NE US

Actual delivery :
Fri 11/21/2014 9:42 am

EAST LONGMEADOW, MA US

**Delivered**

Signed for by: J.SWAN

Travel History

▲ Date/Time	Activity	Location
■ 11/21/2014 - Friday		
9:42 am	Delivered	EAST LONGMEADOW, MA
8:14 am	On FedEx vehicle for delivery	WINDSOR LOCKS, CT
7:52 am	At local FedEx facility	WINDSOR LOCKS, CT
■ 11/20/2014 - Thursday		
11:13 pm	Arrived at FedEx location	MEMPHIS, TN
7:31 pm	Left FedEx origin facility	LINCOLN, NE
3:34 pm	Shipment information sent to FedEx	
3:31 pm	Picked up	LINCOLN, NE

Shipment Facts

Tracking number	546417995820	Service	FedEx Priority Overnight
Weight	2 lbs / 0.91 kgs	Delivered To	Shipping/Receiving
Total pieces	1	Total shipment weight	2 lbs / 0.91 kgs
Shipper reference	2243404801	Packaging	FedEx Pak
Special handling section	Deliver Weekday		

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com



Page 1 of 2



Sample Receipt Checklist

CLIENT NAME: Univ. Of Nebraska RECEIVED BY: PB DATE: 11/21/14

1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included

2) Does the chain agree with the samples?

Yes No

If not, explain:

3) Are all the samples in good condition?

Yes No

If not, explain:

4) How were the samples received:

On Ice ☐

Direct from Sampling ☐

Ambient ☒

In Cooler(s) ☐

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun _____

5) Are there Dissolved samples for the lab to filter?

Yes No

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples?

Yes No

Who was notified _____ Date _____ Time _____

7) Location where samples are stored:

Log m

Permission to subcontract samples? Yes No

(Walk-in clients only) if not already approved

Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		<u>Plastic Bag / Ziploc</u>	<u>9</u>
500 mL Plastic		SOC Kit	
250 mL plastic		Non-ConTest Container	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Doc# 277

Rev. 4 August 2013

Login Sample Receipt Checklist**(Rejection Criteria Listing - Using Sample Acceptance Policy)****Any False statement will be brought to the attention of Client**

<u>Question</u>	<u>Answer (True/False)</u>		<u>Comment</u>
	T/F/NA		
1) The cooler's custody seal, if present, is intact.	NA		
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	NA		
4) Cooler Temperature is acceptable.	NA		
5) Cooler Temperature is recorded.	NA		
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) There are no discrepancies between the sample IDs on the container and the COC.	T		
10) Samples are received within Holding Time.	T		
11) Sample containers have legible labels.	T		
12) Containers are not broken or leaking.	T		
13) Air Cassettes are not broken/open.	NA		
14) Sample collection date/times are provided.	T		
15) Appropriate sample containers are used.	T		
16) Proper collection media used.	T		
17) No headspace sample bottles are completely filled.	NA		
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
19) Trip blanks provided if applicable.	NA		
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA		
21) Samples do not require splitting or compositing.	T		

Doc #277 Rev. 4 August 2013

Who notified of False statements?

Log-In Technician Initials: PB

Date/Time:

Date/Time: 11/21/14

9:42



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

Report Summary

Thursday October 23, 2014

Report Number: L727661

Samples Received: 10/15/14

Client Project:

Description: UNL Caulk PCB

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Darren Reeder , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : ESC E
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.085	mg/kg	8082	10/16/14	5
PCB 1221	BDL	0.085	mg/kg	8082	10/16/14	5
PCB 1232	BDL	0.085	mg/kg	8082	10/16/14	5
PCB 1242	BDL	0.085	mg/kg	8082	10/16/14	5
PCB 1248	75.	4.2	mg/kg	8082	10/20/14	250
PCB 1254	73.	4.2	mg/kg	8082	10/20/14	250
PCB 1260	BDL	0.085	mg/kg	8082	10/16/14	5
PCBs Surrogates						
Decachlorobiphenyl	78.6		% Rec.	8082	10/16/14	5
Tetrachloro-m-xylene	125.		% Rec.	8082	10/16/14	5

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09
L727661-01 (PCBS) - Dilution due to sample volume



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 23, 2014

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

Date Received : October 15, 2014
Description : UNL Caulk PCB

Sample ID : ESC W

Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-02

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.26	mg/kg	8082	10/16/14	15
PCB 1221	BDL	0.26	mg/kg	8082	10/16/14	15
PCB 1232	BDL	0.26	mg/kg	8082	10/16/14	15
PCB 1242	BDL	0.26	mg/kg	8082	10/16/14	15
PCB 1248	1.3	0.26	mg/kg	8082	10/16/14	15
PCB 1254	0.88	0.26	mg/kg	8082	10/16/14	15
PCB 1260	BDL	0.26	mg/kg	8082	10/16/14	15
PCBs Surrogates						
Decachlorobiphenyl	61.0		% Rec.	8082	10/16/14	15
Tetrachloro-m-xylene	82.7		% Rec.	8082	10/16/14	15

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09
L727661-02 (PCBS) - Dilution due to sample volume



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : IRS N
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.51	mg/kg	8082	10/16/14	30
PCB 1221	BDL	0.51	mg/kg	8082	10/16/14	30
PCB 1232	BDL	0.51	mg/kg	8082	10/16/14	30
PCB 1242	BDL	0.51	mg/kg	8082	10/16/14	30
PCB 1248	16.	2.6	mg/kg	8082	10/20/14	150
PCB 1254	15.	2.6	mg/kg	8082	10/20/14	150
PCB 1260	BDL	0.51	mg/kg	8082	10/16/14	30
PCBs Surrogates						
Decachlorobiphenyl	68.0		% Rec.	8082	10/16/14	30
Tetrachloro-m-xylene	87.7		% Rec.	8082	10/16/14	30

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09
L727661-03 (PCBS) - Dilution due to sample volume



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : IRS S
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-04

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.51	mg/kg	8082	10/16/14	30
PCB 1221	BDL	0.51	mg/kg	8082	10/16/14	30
PCB 1232	BDL	0.51	mg/kg	8082	10/16/14	30
PCB 1242	BDL	0.51	mg/kg	8082	10/16/14	30
PCB 1248	2.8	0.51	mg/kg	8082	10/16/14	30
PCB 1254	2.1	0.51	mg/kg	8082	10/16/14	30
PCB 1260	BDL	0.51	mg/kg	8082	10/16/14	30
PCBs Surrogates						
Decachlorobiphenyl	65.3		% Rec.	8082	10/16/14	30
Tetrachloro-m-xylene	88.0		% Rec.	8082	10/16/14	30

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09
L727661-04 (PCBS) - Dilution due to sample volume



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : IRS E
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-05

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.64	mg/kg	8082	10/20/14	37.5
PCB 1221	BDL	0.64	mg/kg	8082	10/20/14	37.5
PCB 1232	BDL	0.64	mg/kg	8082	10/20/14	37.5
PCB 1242	BDL	0.64	mg/kg	8082	10/20/14	37.5
PCB 1248	31.	3.2	mg/kg	8082	10/22/14	187.5
PCB 1254	44.	3.2	mg/kg	8082	10/22/14	187.5
PCB 1260	BDL	0.64	mg/kg	8082	10/20/14	37.5
PCBs Surrogates						
Decachlorobiphenyl	71.7		% Rec.	8082	10/20/14	37.5
Tetrachloro-m-xylene	114.		% Rec.	8082	10/20/14	37.5

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : IRS W
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-06

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.61	mg/kg	8082	10/20/14	35.7
PCB 1221	BDL	0.61	mg/kg	8082	10/20/14	35.7
PCB 1232	BDL	0.61	mg/kg	8082	10/20/14	35.7
PCB 1242	BDL	0.61	mg/kg	8082	10/20/14	35.7
PCB 1248	36.	3.0	mg/kg	8082	10/22/14	178.6
PCB 1254	38.	3.0	mg/kg	8082	10/22/14	178.6
PCB 1260	BDL	0.61	mg/kg	8082	10/20/14	35.7
PCBs Surrogates						
Decachlorobiphenyl	68.9		% Rec.	8082	10/20/14	35.7
Tetrachloro-m-xylene	107.		% Rec.	8082	10/20/14	35.7

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 23, 2014

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : IC N
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-07

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	29.	mg/kg	8082	10/21/14	1693
PCB 1221	BDL	29.	mg/kg	8082	10/21/14	1693
PCB 1232	BDL	29.	mg/kg	8082	10/21/14	1693
PCB 1242	BDL	29.	mg/kg	8082	10/21/14	1693
PCB 1248	BDL	29.	mg/kg	8082	10/21/14	1693
PCB 1254	BDL	29.	mg/kg	8082	10/21/14	1693
PCB 1260	BDL	29.	mg/kg	8082	10/21/14	1693
PCBs Surrogates						
Decachlorobiphenyl	0.00		% Rec.	8082	10/21/14	1693
Tetrachloro-m-xylene	0.00		% Rec.	8082	10/21/14	1693

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09
L727661-07 (PCBS) - Dilution due to matrix



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : IC S
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-08

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	38.	mg/kg	8082	10/21/14	2225
PCB 1221	BDL	38.	mg/kg	8082	10/21/14	2225
PCB 1232	BDL	38.	mg/kg	8082	10/21/14	2225
PCB 1242	BDL	38.	mg/kg	8082	10/21/14	2225
PCB 1248	BDL	38.	mg/kg	8082	10/21/14	2225
PCB 1254	BDL	38.	mg/kg	8082	10/21/14	2225
PCB 1260	BDL	38.	mg/kg	8082	10/21/14	2225
PCBs Surrogates						
Decachlorobiphenyl	0.00		% Rec.	8082	10/21/14	2225
Tetrachloro-m-xylene	0.00		% Rec.	8082	10/21/14	2225

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09
L727661-08 (PCBS) - Dilution due to matrix



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 23, 2014

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : IC E
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-09

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	42.	mg/kg	8082	10/21/14	2500
PCB 1221	BDL	42.	mg/kg	8082	10/21/14	2500
PCB 1232	BDL	42.	mg/kg	8082	10/21/14	2500
PCB 1242	BDL	42.	mg/kg	8082	10/21/14	2500
PCB 1248	BDL	42.	mg/kg	8082	10/21/14	2500
PCB 1254	BDL	42.	mg/kg	8082	10/21/14	2500
PCB 1260	BDL	42.	mg/kg	8082	10/21/14	2500
PCBs Surrogates						
Decachlorobiphenyl	0.00		% Rec.	8082	10/21/14	2500
Tetrachloro-m-xylene	0.00		% Rec.	8082	10/21/14	2500

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09
L727661-09 (PCBS) - Dilution due to matrix



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : IC W
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-10

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1221	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1232	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1242	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1248	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1254	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1260	BDL	130	mg/kg	8082	10/21/14	7500
PCBs Surrogates						
Decachlorobiphenyl	0.00		% Rec.	8082	10/21/14	7500
Tetrachloro-m-xylene	0.00		% Rec.	8082	10/21/14	7500

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB

Sample ID : ERS N

Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-11

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1221	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1232	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1242	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1248	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1254	0.99	0.26	mg/kg	8082	10/20/14	15
PCB 1260	BDL	0.26	mg/kg	8082	10/20/14	15
PCBs Surrogates						
Decachlorobiphenyl	65.4		% Rec.	8082	10/20/14	15
Tetrachloro-m-xylene	70.7		% Rec.	8082	10/20/14	15

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : ERS S
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-12

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1221	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1232	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1242	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1248	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1254	0.29	0.26	mg/kg	8082	10/20/14	15
PCB 1260	BDL	0.26	mg/kg	8082	10/20/14	15
PCBs Surrogates						
Decachlorobiphenyl	59.3		% Rec.	8082	10/20/14	15
Tetrachloro-m-xylene	72.0		% Rec.	8082	10/20/14	15

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB

Sample ID : ERS E

Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-13

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1221	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1232	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1242	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1248	3.0	0.26	mg/kg	8082	10/20/14	15
PCB 1254	3.0	0.26	mg/kg	8082	10/20/14	15
PCB 1260	BDL	0.26	mg/kg	8082	10/20/14	15
PCBs Surrogates						
Decachlorobiphenyl	61.7		% Rec.	8082	10/20/14	15
Tetrachloro-m-xylene	74.7		% Rec.	8082	10/20/14	15

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 23, 2014

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : ERS W
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-14

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1221	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1232	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1242	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1248	1.7	0.26	mg/kg	8082	10/20/14	15
PCB 1254	1.6	0.26	mg/kg	8082	10/20/14	15
PCB 1260	BDL	0.26	mg/kg	8082	10/20/14	15
PCBs Surrogates						
Decachlorobiphenyl	61.7		% Rec.	8082	10/20/14	15
Tetrachloro-m-xylene	76.7		% Rec.	8082	10/20/14	15

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : EK N
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-15

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1221	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1232	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1242	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1248	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1254	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1260	BDL	130	mg/kg	8082	10/21/14	7500
PCBs Surrogates						
Decachlorobiphenyl	0.00		% Rec.	8082	10/21/14	7500
Tetrachloro-m-xylene	0.00		% Rec.	8082	10/21/14	7500

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 23, 2014

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

Date Received : October 15, 2014
Description : UNL Caulk PCB

Sample ID : EK S

Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-16

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1221	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1232	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1242	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1248	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1254	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1260	BDL	130	mg/kg	8082	10/21/14	7500
PCBs Surrogates						
Decachlorobiphenyl	0.00		% Rec.	8082	10/21/14	7500
Tetrachloro-m-xylene	0.00		% Rec.	8082	10/21/14	7500

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB
Sample ID : EK E
Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-17

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1221	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1232	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1242	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1248	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1254	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1260	BDL	130	mg/kg	8082	10/21/14	7500
PCBs Surrogates						
Decachlorobiphenyl	0.00		% Rec.	8082	10/21/14	7500
Tetrachloro-m-xylene	0.00		% Rec.	8082	10/21/14	7500

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

October 23, 2014

Date Received : October 15, 2014
Description : UNL Caulk PCB

Sample ID : EK W

Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-18

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1221	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1232	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1242	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1248	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1254	BDL	130	mg/kg	8082	10/21/14	7500
PCB 1260	BDL	130	mg/kg	8082	10/21/14	7500
PCBs Surrogates						
Decachlorobiphenyl	0.00		% Rec.	8082	10/21/14	7500
Tetrachloro-m-xylene	0.00		% Rec.	8082	10/21/14	7500

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 23, 2014

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

Date Received : October 15, 2014
Description : UNL Caulk PCB

Sample ID : ESC N

Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-19

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1221	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1232	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1242	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1248	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1254	0.92	0.26	mg/kg	8082	10/20/14	15
PCB 1260	BDL	0.26	mg/kg	8082	10/20/14	15
PCBs Surrogates						
Decachlorobiphenyl	61.5		% Rec.	8082	10/20/14	15
Tetrachloro-m-xylene	69.3		% Rec.	8082	10/20/14	15

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 23, 2014

Dustin Huenink
New Horizons, LLC - Lincoln, NE
1201 D Street
Lincoln, NE 68502

Date Received : October 15, 2014
Description : UNL Caulk PCB

Sample ID : ESC S

Collected By : Jazhan Amill
Collection Date : 10/14/14 16:00

ESC Sample # : L727661-20

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1221	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1232	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1242	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1248	BDL	0.26	mg/kg	8082	10/20/14	15
PCB 1254	0.73	0.26	mg/kg	8082	10/20/14	15
PCB 1260	BDL	0.26	mg/kg	8082	10/20/14	15
PCBs Surrogates						
Decachlorobiphenyl	65.8		% Rec.	8082	10/20/14	15
Tetrachloro-m-xylene	72.0		% Rec.	8082	10/20/14	15

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/23/14 14:08 Printed: 10/23/14 14:09

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L727661-07	WG749024	SAMP	Decachlorobiphenyl	R2999317	J7
	WG749024	SAMP	Tetrachloro-m-xylene	R2999317	J7
L727661-08	WG749024	SAMP	Decachlorobiphenyl	R2999317	J7
	WG749024	SAMP	Tetrachloro-m-xylene	R2999317	J7
L727661-09	WG749024	SAMP	Decachlorobiphenyl	R2999317	J7
	WG749024	SAMP	Tetrachloro-m-xylene	R2999317	J7
L727661-10	WG749124	SAMP	Decachlorobiphenyl	R2999476	J7
	WG749124	SAMP	Tetrachloro-m-xylene	R2999476	J7
L727661-15	WG749124	SAMP	Decachlorobiphenyl	R2999476	J7
	WG749124	SAMP	Tetrachloro-m-xylene	R2999476	J7
L727661-16	WG749124	SAMP	Decachlorobiphenyl	R2999476	J7
	WG749124	SAMP	Tetrachloro-m-xylene	R2999476	J7
L727661-17	WG749124	SAMP	Decachlorobiphenyl	R2999476	J7
	WG749124	SAMP	Tetrachloro-m-xylene	R2999476	J7
L727661-18	WG749124	SAMP	Decachlorobiphenyl	R2999476	J7
	WG749124	SAMP	Tetrachloro-m-xylene	R2999476	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
10/23/14 at 14:09:31

TSR Signing Reports: 296
R5 - Desired TAT

Sample: L727661-01 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-02 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-03 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-04 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-05 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-06 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-07 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-08 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-09 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-10 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-11 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-12 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-13 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-14 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-15 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-16 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-17 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-18 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-19 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix
Sample: L727661-20 Account: NEWHORKLNE Received: 10/15/14 09:00 Due Date: 10/22/14 00:00 RPT Date: 10/23/14 14:08
NO TS due to matrix



YOUR LAB OF CHOICE

 12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859
L # 6727661

C249

Acctnum: NEWHORKLINE

Template: T97206

Prelogin: P484148

TSR: 296 - Darren Reeder

PB: 9-24-14

Shipped Via: FedEx Ground

Rem./Contaminant Sample # (lab only)

Analysis / Container / Preservative

PCBs-Caulk 2ozClr-NoPres

Billing Information:

 Accounts Payable
 PO Box 22920
 Lincoln, NE 68542
Email To: dustin@newhorizons-llc.com

New Horizons, LLC - Lincoln, NE

 PO Box 22920
 Lincoln, NE 68542

 Report to:
 Dustin Huenink

 Project
 Description: UNL Caulk PCB

 City/State
 Collected: Lincoln, NE

 Phone: 402-261-8130
 Fax: 402-261-8136

Client Project #

Lab Project #

 Collected by (print):
Jazhan Amill

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

 Date Results Needed
Five Day / (ASAP)

 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

 Email? No Yes
 FAX? No Yes

No. of Cntrs

 Immediately
 Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Rem./Contaminant	Sample # (lab only)
ESC E.		SS		10.14.14	1300-	1	X		01
ESC W.		SS			1600	1	X		02
IRS N.		SS				1	X		03
IRS S.		SS				1	X		04
IRS E.		SS				1	X		05
IRS W.		SS				1	X		06
IC N.		SS				1	X		07
IC S.		SS				1	X		08
IC E.		SS				1	X		09
IC W.		SS				1	X		10

 * Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other Building Components
 Remarks: Exterior Sidewalk Caulk (ESC) Interior Caulk (IC)
Interior Rubber Seal (IRS)
pH Temp Flow Other

Hold #

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Samples returned via: ☐ UPS☒ FedEx ☐ Courier ☐ _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received: 20 (202)

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 10/15/14 Time: 09:00COC Seal Intact: Y N NA

pH Checked: NCF:

UNL LOVE LIBRARY NORTH - PROJECT SUMMARY

ConTest Analytical Laboratory Job Numbers: 14K0314 & 14K0982

ESC Lab Sciences Job Number: L727661

A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.

The data validation was conducted in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" June 2008; "EPA New England Environmental Data Review Supplement For Regional Data Review Elements and Superfund Specific Guidance/Procedures" April 2013; and the referenced method.

ConTest samples were received at ambient temperature. No qualifications were applied.

ESC samples were evaluated for holding times and surrogates only since no other QC data were included with the sample report.

PCBs:

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications were applied.

All PCB surrogates met acceptance criteria (30-150%) or were diluted out with the following exceptions:

LAB ID	SAMPLE ID	DCB (%/%)	QUALIFIER
14K0314-06	LSO	197/OK	None, only 1 out
14K0314-07	LSB	178/OK	None, only 1 out

DCB = decachlorobiphenyl

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications were applied.

No PCB field blank samples were collected with these analytical packages. No qualifications were applied.

The PCB matrix spike/matrix spike duplicate (MS/MSD) performed on sample IF (14K0982-06) met acceptance criteria. No qualifications were applied.

The PCB laboratory control samples (LCS)/laboratory control sample duplicate (LCSD) met recovery (50-150%) and relative percent difference (RPD) ($\leq 30\%$) acceptance criteria with the following exceptions:

LCS/LCSD ID	ANALYTE	%R/%R/RPD	IMPACTED SAMPLES	QUALIFIER
B109252BS1/BS1	Aroclor-1016	OK/OK/34.4 OK/OK/32.5	14K0314	J, detected Aroclors
	Aroclor-1260	OK/OK/49.8 OK/OK/41.9		J, detected Aroclors

No PCB field duplicate samples were submitted with these analytical packages. No qualifications were applied.

The RPD between the column results for all detected Aroclors met acceptance criteria with the following exceptions:

UNL LOVE LIBRARY NORTH - PROJECT SUMMARY

ConTest Analytical Laboratory Job Numbers: 14K0314 & 14K0982

ESC Lab Sciences Job Number: L727661

LAB ID	SAMPLE ID	PCB	RPD	QUALIFIER
14K0314-02	LFC	1260	55.3	J
14K0314-04	LW2	1260	26.6	J
14K0314-07	LSB	1260	29.6	J
14K0982-03	EKW	1260	25.1	J


According to the case narrative, for Aroclor-1248 in sample LWB (14K0314-01) and for Aroclor-1254 and Aroclor-1260 in samples LFC (14K0314-02), LW2 (14K0314-04), EKS (14K0982-02), EKW (14K0982-03), EKN (14K0982-04), and ICW (14K0982-05); "Sample fingerprint does not match standard exactly. Aroclor with the closet matching pattern is reported." No qualifications were applied.

According to the case narrative, for Aroclor-1254 in samples LSO (14K0314-06), LSB (14K0314-07), and LWO (14K0314-09) and for Aroclor-1260 in sample LWO (14K0314-09); "Due to continuing calibration non-conformance on the confirmatory detector, the lower of the two results was reported." Therefore, the Aroclor-1254 result in samples LSO (14K0314-06), LSB (14K0314-07), and LWO (14K0314-09) and the Aroclor-1260 result in sample LWO (14K0314-09) are estimated (J).

Many samples were analyzed at a dilution due to the high concentration of Aroclors present in the sample and/or due to the sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilutions performed.

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

Gloria J. Switalski:
President



Date: 10/4/2014

APPENDIX C: PERIMETER DUST MONITORING PLAN

APPENDIX C – SUPPORT ZONE/PERIMETER DUST MONITORING PLAN

Airborne particulate matter (PM) consists of many different substances suspended in air in the form of particles (solids or liquid droplets) that vary widely in size. Inhalation hazards are caused if the intake of these particles includes intake of vapors and/or contaminated dust. Particles less than 10 micrometers in diameter (PM-10), which include both respirable fine (less than 2.5 micrometers) and coarse (less than 10 micrometers) dust particles, pose the greatest potential health concern because they can pass through the nose and throat and get into the lungs.

During the performance of the planned remediation activities, particulate matter in the form of potentially PCB-affected dust may be generated. The greatest potential for the generation of affected dust is during the removal of PCB containing building materials, particularly during the grinding of concrete.

As indicated in the remediation plan, the main dust control mechanism to be employed on the project will be the use of engineering controls (e.g. wet techniques and misting), polyethylene containment structures, HEPA filtration, and personal protective equipment (PPE). In addition, particulate air monitoring will be conducted during intrusive or dust-generating activities in the Support Work Zone (SWZ) and perimeter to the SWZ. The SWZ is the area just outside of the active work areas, in designated safe work zones or support zones. Particulate air monitoring will determine if fugitive dust particles are present in the ambient air within the designated SWZ and/or perimeter during active removal activities. A direct-reading particulate meter will be used to monitor airborne particulate concentrations during site activities. Particulate concentrations shall be utilized as an indirect indicator of exposures to on-site receptors.

Dust concentrations in the SWZ will be measured using a suitable real time aerosol particulate monitor capable of determining ambient air fugitive dust concentrations to 0.001 milligrams per cubic meter (mg/m³). Dust monitoring shall be conducted while concrete grinding activities and concrete walkway/soil removal activities are occurring at a frequency of one reading every two hours except when grinding is occurring under full containment. Prior to the active removal actions and at periodic points during the project, dust monitoring readings will be recorded to document background particulate matter concentrations.

If total particulate concentrations in the SWZ exceed the action limits (as specified below and incorporating background readings) and are sustained (i.e. greater than 5 minutes), then the following actions will be taken:

- Engineering controls (HEPA filtration, containment, etc.) will be inspected to insure proper operation;
- Work practices will be evaluated;
- Additional dust suppression techniques to mitigate fugitive dust shall be initiated.

If applicable, the dust suppression techniques shall involve the application of a fine mist of water over the area creating the fugitive dust condition. The water shall be applied either by small hand held sprayers or sprinklers. In the event that the total of airborne particulate cannot be maintained below the action limit in the SWZ, then work activities shall be ceased until sustained readings are below the action limit or the SWZ designation is re-evaluated.

OSHA has published the following permissible exposure limits (8 hour time weighted average) for air contaminants (29 CFR 1910.1000):

Air Contaminant	PEL (8-hour TWA)
Total Dust	15 mg/m ³
Respirable Dust Fraction	5 mg/m ³
PCBs (42% Chlorine)	1 mg/m ³
PCBs (54% Chlorine)	0.5 mg/m ³

In addition, EPA has established a National Ambient Air Quality Standard for PM-10 of 0.150 mg/m³ (24-hr average).

APPENDIX C – SUPPORT ZONE/PERIMETER DUST MONITORING PLAN

A total airborne particulate action limit has been established for the building material removal work to be conducted with consideration of the specific receptors, PCB concentrations, work activities, and OSHA permissible exposure limits. The action limit applies only to dust monitoring within the SWZ and perimeter to the SWZ; an action limit has not been set for the active work zones (exclusion zones) as engineering controls and PPE will be used within these zones.

Given the nature of surrounding buildings and the anticipated PCB concentration in dust that may be generated during abatement activities, a conservative action limit of 0.1 mg/m³ above background will be maintained during site work. Dust monitoring at a location representative of background conditions (i.e. a location upwind without active remedial activities in progress) will be conducted at the same frequency as SWZ monitoring to obtain data representative of real-time background conditions. The action limit will be used to determine if and when additional engineered controls and/or work stoppages would be necessary.



woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS